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THE UNIVERSITY OF ALBERTA
THE EFFECTS OF SOCIO-ECONOMIC STATUS ON RECOGNITION
AND RECALL VOCABULARIES OF GRADE ONE CHILDREN

by



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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled, "The Effects of Socio-economic Status on Recognition and Recall Vocabularies of Grade One Children" submitted by Dorothy Roslyn Labensohn, in partial fulfillment of the requirements for the Degree of Master of Education.

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ABSTRACT

The language development of the child is influenced by many factors including his cognitive development, his mental and chronological age, and the socio-economic environment in which he lives. If his school experiences are to be of maximum benefit, it is important that we know as much as possible about all aspects of the child's language as affected by these influences.

The purpose of this study was to examine the effects of socio-economic status on the recognition and recall vocabularies of urban, predominantly English-speaking, grade one children. Socio-economic status was measured by combining the ratings of Blishen's Canadian Occupational Scale and Elley's revision of the Gogh Home Index Scale. The sample consisted of two groups of twenty-five children each, representing an upper socio-economic status population and a lower socio-economic status population respectively.

Scores from the Columbia Mental Maturity Scale and the Detroit Beginning First Grade Intelligence Test were used as measures of IQ. The Peabody Picture Vocabulary Test was administered to measure recognition vocabulary and the first fifty words of the Peabody Picture Vocabulary Test defined orally by the children and analyzed qualitatively according to a five-fold classification system, were used to measure recall vocabulary.

Statistical analysis utilizing "t" tests was made of the differences between the two groups on IQ measures, and recognition and recall vocabulary scores. Multiple linear regression models were used to determine whether the variables of Columbia IQ scores, Detroit scores, recognition or recall scores, age and sex, contributed significantly to the prediction of recognition and recall scores of each group.

Significant differences were found between the groups on all measures, in favour of the upper socio-economic group. For the upper socio-economic group, recognition score was found to be the only significant predictor of recall score, and recall score was found to be the only significant predictor of recognition score. For the low socio-economic group, no significant predictor of recognition score was found, and both IQ scores and sex, in favour of boys, were found to be significant predictors of recall scores. No sex differences were found on recognition and recall scores for the upper socio-economic status group. Boys were found to make significantly higher scores than girls on recognition and recall measures in the lower socio-economic status group.

The results appear to indicate that lower socio-economic children have poorer recognition and recall vocabularies than upper socio-economic status children and that the relationship between recognition and recall vocabularies is different for each group. This different relationship would appear to account for the differences among predictors of recognition and recall scores for each group.

The mean number of responses in the middle three categories of the qualitative scale were almost identical for both groups. However the low socio-economic status group made significantly fewer responses in the Synonym category, the highest category of the scale. This category seems to represent a threshold of conceptualization and definition beyond which lower socio-economic status children do not function with ease.

Implications of the findings appear to point to increased experiences for lower socio-economic status children to develop vocabulary skills. Preschool classes with well developed programmes would appear to provide an obvious solution.

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CHAPTER I

THE PROBLEM

I. INTRODUCTION

The child entering grade one is bombarded with verbal stimuli, both aurally and visually. He is required to communicate effectively with teachers and peers, to have a sizeable hearing and meaning verbal repertoire and to begin to understand symbolic representations of language. As such, the development of language in the child is essential if he is to be effective and successful in the society and culture in which he lives. Language aids his cognitive development, facilitates his interaction with other members of his society and is essential for success in school. It is important, therefore, that we know as much as possible about the language of the child.

Studies of the vocabulary of children have generally been concerned with vocabulary size. McCarthy (1954) has grouped vocabulary studies into eight types:

1. Estimates of total vocabulary at specified ages.
2. Analysis of total vocabularies according to parts of speech.
3. Analysis of total vocabularies for subject matter.
4. Analysis of the occurrence of the various parts of speech in samples of conversation.
5. Analysis of the occurrence of the various parts of speech in compositions.

6. Estimates of total vocabularies of groups by the use of the free association technique.

7. Estimates of total vocabulary by the use of vocabulary tests.

8. Word frequency counts.

Attempts to estimate vocabulary size are limited in the number of words which can be found, by the sampling method used. Estimates of vocabulary often vary considerably for children of the same ages. For example, estimates of the size of the listening vocabulary of grade one children vary from Dolch's (1936) estimate of 2,703 words to Shibbes' (1959) estimate of 26,000 words. The International Kindergarten Union (1928) found the kindergarten child's speaking vocabulary consisted of 2,596 words. Kolson (1960), using the same procedures, found the kindergarten child's vocabulary contained 3,728 words.

Many studies investigating children's concepts have been carried out. These studies can be divided into two general types. The first type examines the knowledge of specific concepts, for example, concepts of time, space, self, mathematical concepts, scientific concepts, social concepts. Summaries of research in this area have been provided by Russell (1954, 1956, 1960), Vinacke (1952), and Thompson (1952), among others.

The second type of study has attempted to trace stages in the development of concepts in children. Curti (1950), Buhler (1930), Welch and Long (1940), Piaget (1963 a, 1963 b, 1963 c), Werner (1948) and others have described the stages through which children pass in the acquisition and elaboration of concepts. In general, investigators

tend to agree that concepts develop from a concrete level to an abstract level.

Various studies, which will be discussed in Chapter II, have examined vocabulary qualitatively in terms of the kinds of definition children give. The assumption behind these studies, and shared by the writer, is that vocabulary development approximates closely or coincides with concept development.

It would seem obvious that studies of vocabulary should examine the qualitative aspects and differences in the vocabulary of children, as well as the number of words the child uses, however inappropriately, and the number of words to which he attaches minimal meaning.

Many factors influence language development and vocabulary acquisition. A major factor is the richness and variety of experience to which the child has access. The experiential background of lower class children is vastly different from that of middle and upper class children. Research by Bernstein (1960, 1961, 1962, 1964, 1965), John (1963, 1964), and Deutsch (1962, 1963, 1964, 1965 a, 1965 b) at the Institute for Developmental Studies, and many others, indicates that the relatively low performance exhibited by lower class children on tests of IQ, vocabulary and reading is, at least partly, a function of environmental rather than genetic factors.

II. PURPOSE OF THE STUDY

The purpose of this study was to examine the effects of socio-economic status on the recognition and recall vocabularies of grade one children. The sample consisted of two groups of children, the first

representing a high socio-economic status group, the second, a low socio-economic status group.

III. HYPOTHESES

1. There is no significant difference between the two groups on the following variables:
 - a) IQ scores as measured by the Columbia Mental Maturity Scale.
 - b) Scores of the Detroit Beginning First Grade Intelligence Test.
 - c) Recognition vocabulary scores as measured by the Peabody Picture Vocabulary Test.
 - d) Recall vocabulary scores as measured by the Peabody Picture Vocabulary Test adapted for this purpose.
 - e) The number of responses in each of the categories of the Feifel scale.
2. For the high socio-economic status group the following variables do not make a significant contribution to the prediction of recognition vocabulary scores:
 - a) IQ scores as measured by the Columbia Mental Maturity Scale.
 - b) Scores of the Detroit Beginning First Grade Intelligence Test.
 - c) Recall vocabulary scores.
 - d) Age.
 - e) Sex.
3. For the high socio-economic status group the following variables do not make a significant contribution to the

prediction of recall vocabulary scores:

- a) IQ scores as measured by the Columbia Mental Maturity Scale.
- b) Scores of the Detroit Beginning First Grade Intelligence Test.
- c) Recognition vocabulary scores.
- d) Age.
- e) Sex.

4. For the low socio-economic status group the following variables do not make a significant contribution to the prediction of recognition vocabulary scores:

- a) IQ scores as measured by the Columbia Mental Maturity Scale.
- b) Scores of the Detroit Beginning First Grade Intelligence Test.
- c) Recall vocabulary scores.
- d) Age.
- e) Sex.

5. For the low socio-economic status group the following variables do not make a significant contribution to the prediction of recall vocabulary scores:

- a) IQ scores as measured by the Columbia Mental Maturity Scale.
- b) Scores of the Detroit Beginning First Grade Intelligence Test.
- c) Recognition vocabulary scores.
- d) Age.
- e) Sex.

IV. DEFINITIONS

For the purpose of this study the meanings attached to certain terms are as follows:

1. Recognition vocabulary score - the raw score obtained by measuring vocabulary with Form B of the Peabody Picture Vocabulary Test, where a word is presented orally to the child along with a series of four pictures of objects and/or events. The child is then asked to select the picture which he associates with the word given.
2. Recall vocabulary - the vocabulary measured by presenting orally the first fifty words of Form B of the Peabody Picture Vocabulary Test and asking the child to verbally elaborate the meaning of the words.
3. Qualitative analysis - refers to an analysis of the recall vocabulary responses according to a five-fold classification system devised by Feifel (1949).
4. Recall vocabulary score - the score obtained by assigning a numerical value to each category of the Feifel scale and multiplying the number of responses in each category by the numerical value for that category, for each child.
5. Socio-economic status - a numerical rating assigned to each subject, calculated by combining the ratings of father's occupation according to the Canadian Occupation Scale of Blishen (1961) and the ratings derived from the Gogh Home Index Scale as revised by Elley (1961).

V. DESIGN OF THE STUDY

In May, 1967, two groups of twenty-five children each were selected from grade one classes of the Edmonton Public Schools to represent a high socio-economic status population and a low socio-economic status population.

The following tests were administered by the writer to each child individually:

1. Columbia Mental Maturity Scale as a measure of IQ.
2. Peabody Picture Vocabulary Test to measure recognition vocabulary.
3. Recall vocabulary was measured by presenting the first fifty words of the Peabody Picture Vocabulary Test orally and asking the child to define the words. Responses were taped and later transcribed by the writer and analyzed qualitatively according to a five-fold classification system. Responses were weighted so that a recall score was available for each child.

The following data were collected from the cumulative record card of each child:

1. Sex of child.
2. Date of birth.
3. Scores on the Detroit Beginning First Grade Intelligence Test.

Statistical analysis, utilizing the "t" test, was made to compare both groups, and multiple linear regression analysis was employed to assess the contribution of each of the variables to

the prediction of recognition and recall scores within each group.

VI. LIMITATIONS

The validity of the findings of this study is limited in the following ways:

1. All subjects were urban and spoke English predominantly.
2. The two groups did not represent a random or cross-sectional sampling of the population. They represented two extreme socio-economic populations in the city of Edmonton.
3. The size of the two groups was limited by the amount of time required for individual testing of subjects.
4. There were limitations inherent in attempting to measure the act of defining words orally. Defining a word orally is a highly complex task and the child is limited by his ability to express himself.

VII. SIGNIFICANCE OF THE STUDY

The disadvantages suffered by lower class children present real problems to educators. It is hoped that this study will help to pinpoint some of the areas of difficulty with respect to language and will supplement other data on children from varying socio-economic levels. This study may provide insights into the kinds of language experiences which the school should provide. It is also hoped that the results will provide a further reason for the provision of educational experiences for children prior to grade one.

VIII. ORGANIZATION OF THE REPORT

This chapter has attempted to introduce the problem, describe the purpose, limitations, significance and design of the study, define terms and state the hypotheses. The rest of the study is organized as follows :

Chapter II : Related research and literature

Chapter III : Design of the study

Chapter IV : Analysis of data

Chapter V : Findings, conclusions and implications.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter reviews literature related to qualitative studies of vocabulary and to factors influencing language development. The chapter closes with a brief summary.

I. QUALITATIVE STUDIES OF VOCABULARY

Chambers (1904) was one of the first to look at vocabulary qualitatively. He examined the definitions of 2,922 subjects between the ages of five and twenty-seven, under the following headings: (1) no answer; (2) wholly wrong; (3) vaguely right; (4) correct. He concluded that the child's development in defining follows that order.

Pohlmann (1907) found that many of the definitions given by younger children were in terms of concretely contextualized action, whereas the definitions of the older children indicated a movement away from the defining of words in terms of action contexts towards definitions in terms of relatively context-free, general thing-names.

In a study done in 1939-1941, but not published until 1958, Baranyi examined the definitions of 556 children between the ages of eight and ten. She found a progressive development in the responses from the concrete to the abstract.

Burns (1960) examined written definitions of secondary school children in England. His categories were: (1) definition by emotional tone; (2) definitions that associate meaning with a specific situation;

(3) definitions of a generic type. He distinguished four kinds of generic descriptions: (a) definitions stating the class concept; (b) definitions implying the class concept; (c) definitions stating class and significant characteristics; (d) definitions implying class and stating characteristics. He considered definitions of a generic type to be superior logically and psychologically to definitions in terms of specific content or emotional tone.

In 1905 Binet and Simon published IQ tests which included vocabulary sub-tests containing abstract and concrete words. They used the following categories: (1) silence, simple repetition or designation by gesture; (2) definition by use only; (3) definition superior to use. They found that it was not until nine years of age that the majority of definitions given were superior to the use category.

Reichard and Rapaport (1943) studied the responses of children and adolescents to the vocabulary section of the Stanford-Binet scale. They found that "concrete" definitions decreased with age and gave way to "functional" and then to "conceptual" types of definitions.

Marx (1928) carried out a qualitative study of the first fifty words of the Stanford-Binet vocabulary test on a group of over 1,000 children and 200 adults. She used the following categories: (1) synonym or synonym type; (2) interpretation; (3) repetition in appropriate context; (4) definition by example; (5) poor explanation; (6) special aspect isolated; (7) failure. She found the highest quality types of definition in relation to chronological age were those of the synonym and genus variety, while lowest on the age scale were those definitions

having illustration or example, use and repetition types of response.

In 1931, Green, using the Stanford-Binet vocabulary test, qualitatively analyzed the responses of 718 children and 110 adults. She devised a method of weighted scoring for each word in accordance with the relation between the quality of the response and the developmental level of the subject. Although her classification system was somewhat different from Marx's, her results followed the same trend.

In 1949, Feifel devised a system of classifying responses with the following categories: (1) synonym; (2) use, description, use and description; (3) explanation; (4) demonstration, repetition, illustration, inferior explanation; (5) error. This system was later used by Feifel and Lorge (1950) to analyze responses of 900 male and female children aged six to fourteen to the Stanford-Binet vocabulary test. They found that younger children significantly more often employed use and description and illustration, demonstration, inferior explanation and repetition types of responses, whereas older children significantly more often used synonym and explanation types of response.

Grant (1965) analyzed the oral responses of good and poor readers to the vocabulary subtest of the Stanford-Binet to determine whether poor readers were less abstract in defining words than good readers. She analyzed the responses according to the Feifel classification system and the results indicated a significant difference in abstract verbal behaviour between good and poor readers.

Reichard, Schneider and Rapaport (1944) studied concept formation

in children, using the Goldstein-Weigel Colour Sorting Test. They formulated these methods of forming concepts: (1) the concretistic; (2) the functional; (3) the conceptual.

Gertstein (1949) hypothesized that the same three categories could be used in classifying levels of definitions. Her categories were: (1) the concretistic or descriptive method; (2) the functional or usage method; (3) the categorical or conceptual method.

Carson and Rabin (1960) studied verbal comprehension and communication in Negro and white children. They used the Full Range Picture Vocabulary Test to measure comprehension vocabulary and the Full Range Picture Vocabulary Test items defined by the children to measure communication vocabulary. To analyze the definitions they adapted a scale used by Rabin, King and Ehrmann (1955) with the following categories: (1) categorization and synonym; (2) essential description; (3) essential function; (4) example; (5) vague description and vague function; (6) error; (7) don't know.

Their subjects were three groups of grade four, five and six students: a Northern Negro group, a Southern Negro group and a Northern white group. They found different patterns of responses for each of the three groups tested. The Northern white children favoured the higher levels of verbal communication. Northern Negro children favoured the vague type response and manifested a greater percentage of error type responses than the white children. The Southern Negro child's pattern was the only one which showed a high peak in the "don't know" category.

II. FACTORS INFLUENCING LANGUAGE DEVELOPMENT

Socio-economic status. With the recent upsurge of interest in disadvantaged children and the planning and development of compensatory educational programmes, research is beginning to emerge that points to language as one of the major deficits suffered by these children.

As a result of his work in England, Bernstein (1960, 1961 a, 1961 b, 1962, 1964, 1965) has presented a vivid description of the language of the lower classes. The "restricted code" or "public language" of the lower classes is distinguished by:

1. Short, grammatically simple, often unfinished sentences, with poor structural form emphasizing the active voice.
2. Simple and repetitive use of conjunctives.
3. Little use of subordinate clauses.
4. Inability to hold a formal subject through a speech sequence.
5. Rigid and limited use of adjectives and adverbs.
6. Infrequent use of impersonal pronouns as subjects of conditional clauses.

For public language users, structural organization and syntax are highly predictable. The speech mode within which the individual operates severely restricts individual selection and permutation. Black (1966), Dale (1965), Deutsch (1962, 1963, 1964, 1965 a, 1965 b), and Mukerji (1966) support the findings of deficits in syntax, grammatical constructions and subject continuity.

Public language is a speech form that discourages the speaker from verbally elaborating subjective intent. It is not merely a problem of vocabulary or grammar,

...it is a matter of the means available for the organization of meaning, and these means are a function of a special type of social relationship.
(Bernstein, 1961, p. 167)

The perceptual system of the public language user is a relatively closed one. Public language becomes a vehicle for expressing and receiving concrete, global, descriptive relationships, organized within a relatively low level of conceptualization. Insightful generalization is impossible and the most important implication that Bernstein makes is, that following the developmental stages of Piaget, an individual who is restricted to the use of public language may never progress beyond the stage of concrete operations to the stage of formal operations (Bernstein, 1964, p. 320).

Auditory discrimination is not as well developed in disadvantaged children as in middle class children. As Edwards (1965, p.54) points out:

Auditory discrimination develops within a social environment in which a special system of speech sounds prevails. One becomes accustomed to hearing and reproducing those speech sounds but when a new one obtrudes from an alien speech sound system, there is a tendency toward perceptual distortion as one hears and reproduces it in accordance with its nearest equivalent within the more familiar speech sound system. This inaccurate perception and reproduction of standard American English speech hampers the differentiated learner in his development of word recognition skills: he has trouble associating printed symbols with their spoken counterparts because he never really mastered their spoken counterparts.

Bloom, Davis and Hess (1965) and Spodek (1966) have found that disadvantaged children are weak in auditory discrimination skills when they enter school and stress the need to help these children listen selectively. Black (1966) says that disadvantaged children learn less

from what they hear than do middle class children.

The actual type of verbal disadvantage can vary among these children. Frazier (Newton, 1964, p. 268) has identified three kinds of underdeveloped language:

1. True verbal destitution.
2. Full, but non-standard language development. The child can be understood by his home and neighbourhood companions, but does not speak the language of the school.
3. Underdeveloped language because of unconceptualized experience.

Disadvantaged children often possess a much greater language capability and knowledge than is evident in a school situation. Deutsch (Reissman, 1962, p.76) elicited a great deal of "spontaneous" language from children by presenting a large toy clown whose nose lit up when the child talked. The child could talk about anything he liked and when he did not talk, the nose did not light up and the child was told the clown was sad.

Robison and Mukerji (1965) found kindergarten children in a New York City "special service school" were more verbal and fluent in their spontaneous play and conversations than in structured interviews with the researchers.

Several researchers have emphasized the need for preserving the positive characteristics of the language of disadvantaged children. Taylor (Olson, 1965, p.552) has found, that on word association tests, disadvantaged children gave responses that were often less conventional, more unusual, original and independent.

Dale (1965) suggests that it is possible that the child living

in the inner city has a perceptive understanding of emotion not possessed by the middle class child. Perhaps he can size up situations better. He has certainly been subjected to much more vital experience about the realities of life and death than his middle class counterpart.

Riessman (1966) points out that "hip" language, or the language of the streets, often possesses rich connotative qualities for which standard English has no equivalents, for example "cool". He emphasizes building on the language the child possesses and teaching standard English as a second language. Brooks (1966) emphasizes this strongly and Golden (1966) and Ponder (1965) concur in the need to accept the language of the child and allow him to retain pride in it. Bernstein (1961 a) points out that for the public language user the task seems to be to preserve the aesthetic and dignity which inhere in the language, its powerful forthrightness and vitality, and to make available the possibilities inherent in a formal language.

Several studies have examined the effects of family style and parent-child interaction at various socio-economic levels. Perhaps the most comprehensive studies are those of Hess and Shipman (1965, 1966) who examined cognitive development and mother-child interaction. They found :

The central quality involved in the effects of cultural deprivation is a lack of cognitive meaning in the mother-child communication system. The growth of cognitive processes is fostered in family control systems which offer and permit a wide range of alternatives of action and thought, and such growth is constricted by systems of control which offer predetermined solutions and few alternatives for consideration and choice.

(Hess & Shipman, 1965, p. 870)

Hess and Shipman (1965, 1966) studied 160 Negro mothers and their four year old children from four different social class levels. The mothers were taught three tasks by the researchers and were asked to teach these to their children. The teaching sessions were analyzed in terms of type of relationship and type of learning style encouraged, and in terms of quality and quantity of language. In most cases significant deficits were shown among the lower class subjects. When the children were given the Siegel Sorting Task, the most striking finding was the decreasing use of cognitive style dimensions and increasing non-verbal responses with decrease in social status level. They also found the lower class children to be significantly lower than their middle class counterparts in quantity and quality of language used.

Noel (1953) studied the quality of children's language usage compared with the quality and type of language used in the home. He constructed a test containing two hundred pairs of sentences with one incorrect sentence in each pair. Eight different categories of usage were covered. The sample consisted of 124 children and their parents, and a questionnaire was administered to ascertain the extent to which they participated in situations requiring the use of oral language. Noel found a direct, positive relationship between the number of errors made by each child and his parents. Children tended to use the same quality of language usage as their parents. Little relationship was found between language usage of children and parents with respect to the use of prepositions, agreement between subject and verb, and verbs which were often confused. No significant differences were found

between the mean scores of any of the occupational groups. In general the occupation of the father did not affect the quality of the language usage of the child. When the IQ factor was held constant, the occupation of the father did not significantly affect the quality of the language used by the child.

Milner (1951), in her study of the relationship between reading readiness and patterns of parent-child interaction, tested 108 grade one students in three schools representing three distinct socio-economic levels. The children were given the Haggerty Reading Examination, the language factors subtests of the California Test of Mental Maturity and the Gray Oral Reading Paragraph Test. Two subgroups were selected for close examination: the twenty-one children with the highest language factor scores and the twenty-one children with the lowest language factor scores. Individual interviews were held with each child and with each mother. Milner found much less verbal interaction between parents and children of the low scoring group than the high scoring group and she also found a high relationship between low scoring and lower class status and high scoring and middle class status.

Pavenstedt (1965) provides an excellent description of the child rearing environment of upper-lower and very low lower-class families. Twenty families in each group were studied and the upper-lower class group was found to have stable relationships and patterns of interaction combined with high aspiration levels for themselves and their children. The very low lower-class group was found to be very disorganized in its style of living and to be chaotic and impulse directed.

Perhaps the most comprehensive body of research in the language

and cognitive development of disadvantaged children is that emerging from the Institute for Developmental Studies, New York Medical College. Reports are being published on sections of a four year "Verbal Survey" conducted at the Institute.

Martin Deutsch of the Institute has presented vivid descriptions of the language and cognitive levels of disadvantaged children. Research at the Institute has indicated that with proper stimulation these children are capable of a surprisingly high level of language functioning. It has also been found that a major focus of deficit in the language of these children is syntactical organization and subject continuity.

Deutsch (1965 a) describes a section of the Verbal Survey where 292 Negro and white lower and middle class subjects were tested on language and IQ measures. At the grade one level, lower class children showed poorer performance on all IQ and verbal and language measures than their middle class counterparts. In general they found that lower class Negro and white children are subject to a "cumulative deficit" phenomenon which takes place between grade one and grade five. The differences become more marked as the child progresses through school.

John (1963) describes another section of the Verbal Survey where Negro children of different social classes were tested on the Peabody Picture Vocabulary Test to measure receptive vocabulary and the WISC vocabulary subtest to measure expressive vocabulary. They were also given a Verbal Identification Test, created by John, which consisted of stimulus cards depicting simple events or groups of objects. The children were asked to enumerate what they saw on the cards and to give the most

appropriate title for each card. She found that middle class Negro children surpassed the lower class children in possessing a larger vocabulary (WISC), a higher non-verbal IQ (Lorge-Thorndike), in their ability to produce a "best fit" response to the Verbal Identification Test, and in their conceptual sorting and verbalization behaviour.

John and Goldstein (1964) describe a section of the Verbal Survey in which they studied four year old middle and lower class Negro children. The Peabody Picture Vocabulary Test was administered and clusters of words were identified which were found to be difficult for lower class children. These included:

1. Action words, e.g. tying, picking.
2. Words related to rural living, e.g. leaf, bee, bush.
3. Words whose referents may be rare in low income homes, e.g. kangaroo, caboose.

The children were also given a Concept Sorting Test developed by John to investigate category formation. The test consisted of simple drawings which could be grouped into functional pairs (e.g. sailor and boat) or into logically consistent piles (e.g. animals). The children were asked for a verbal rationale for each sort. John and Goldstein found that middle class Negro children tended to produce category labels more often than their lower class peers who were inclined to focus on non-essential attributes.

Figurel (1948) studied the vocabulary of 8,907 slum children in two large Northern United States cities in grades two to six. The free association method was used and subjects were given twenty minutes for the test. He found that two-thirds of all the words written were name

words with a uniform increase from grade to grade. One-fifth of all the words written were action words with a decrease from grade to grade, and very few of the words were relational words. There is no information given, however, about performance of a control group.

Bernstein (1960) designed a study to show that the two speech modes he describes are related to the different status groups and that the orientation of the two linguistic structures is independent of non-verbal IQ test scores. It was predicted that for the working class group the language scores would be severely depressed in relation to the scores in the higher ranges of the non-verbal IQ measures. The sample consisted of sixty-one lower class and forty-five upper class subjects between the ages of fifteen and eighteen. Tests administered were Raven's Progressive Matrices and the Mill Hill Vocabulary Scale. The results showed that a different relationship existed between the non-verbal and verbal measures of IQ for the two social groups. The language scores of the working class group were depressed in relation to the scores at the higher ranges of the matrices. This relationship was not found in the high group.

In a longitudinal study of the language of school age children begun in 1952, Loban (1962, 1963) started with a sample of 338 kindergarten children representing a stratified sample of the population of Oakland, California. Among other things he found that for the Negro child with a Southern background, using the verb "to be" appropriately proved to be twelve times as hard as for Northern white children. Confusion of present and past tenses was another difficulty.

The subjects who proved to have the greatest power over language,

by every measure applied, were those who most frequently used language to express tentativeness. Supposition, hypothesis and conditional statements occurred much less frequently in the low ability group. Children in the low ability group consistently represented lower socio-economic status levels whereas children in the high ability group consistently represented upper socio-economic levels.

Gogh (1946) studied 127 grade six students selected from three schools representing high, middle and low class levels. He found significant positive relationships between socio-economic status and vocabulary and language abilities. Comparison of the high status school with the low status school showed a difference in vocabulary achievement of 7.39 points in favour of the high status school.

Templin (1957) studied the recognition vocabularies of children between three and eight years of age. The Full Range Picture Vocabulary Test was used with children aged three to five and the Seashore-Eckerson English Recognition Vocabulary Test was used with children aged six to eight. She found the difference between the mean score for all three to five year old upper and lower class children to be significant at the .05 level, with the upper class children scoring higher at each level. When she combined the entire age group of subjects, she found the performance of the upper class group to be consistently higher than that of the low class group, and for nearly all measures these differences were statistically significant.

In a comparative study of the effects of early deprivation on speech development, Pringle (1959) studied two groups of preschool children. One group consisted of eighteen children in residential care,

the second, eighteen children living with their own families. Both groups were matched for age, sex and IQ. Two aspects of speech, were studied: the children's ability to understand and express themselves in simple sentences in response to test items, and their spontaneous and undirected verbal expression was studied by recording their conversations during free play periods. Whenever quantitative comparison was possible, the group of children living with their parents was superior to the residential group. They also showed more co-operative play activities and used speech to a greater extent in social contacts with peers and in fantasy play.

Thomas (1962) examined the oral language of fifty Negro and white lower class urban kindergarten children. He found that they showed evidence of deficiency in amount, maturity and quality of oral expression. Twenty to fifty per cent of the words used by the subjects tended to differ from text and teacher word lists for primary grades, indicating a gap between the vocabulary used inside and outside the school.

Carson and Rabin (1960) studied verbal comprehension and communication in Negro and white children. The Full Range Picture Vocabulary Test was used to measure comprehension and the WISC vocabulary subtest was used to measure communication as well as the words of the Full Range Picture Vocabulary Test presented orally with definitions given by the subjects. A qualitative scale devised by King and Ehrmann and adapted by Carson and Rabin was used to qualitatively analyze the definitions. They found verbal comprehension and communication to be two different functions. The groups were equated on comprehension but showed marked

differences with respect to communication. They concluded that it would appear that differences between Negroes and whites on conventional IQ tests and especially on vocabulary subtests may be primarily due to failure in verbal communication rather than in comprehension.

IQ. In his study of the language of elementary school children, Loban (1963) found the highest correlation between vocabulary and intelligence. Children with high vocabulary scores and hence high IQ scores were found to be in the high language ability group and this group consistently represented children of high socio-economic status levels. It appeared obvious in the Loban study that IQ could not be separated from socio-economic status.

Anastasi and Foley (1956) report that according to the data compiled during the standardization of the 1937 revision of the Stanford-Binet, there appeared to be a difference of about twenty points between the intelligence of children of day labourers and the children of professional people. These differences remained consistent from the youngest level to the oldest level.

Havighurst and Breese (1947) studied the relationship between ability and socio-economic status in a United States mid-western community in lower-middle, upper-lower and lower-lower class children using the Chicago Tests of Primary Mental Abilities. They found that children of higher class families tended to do better in all the tests than children of lower class families.

Research of John (1963) and Deutsch (1965 a) has found lower social class status to be associated with poorer performance on all IQ scores.

It appears likely that high IQ and superior language competence occur most frequently in the environment designated as upper socio-economic status. Perhaps largely for this reason, high IQ and superior competence in language appear to be causally related.

Sex. McCarthy (1954) summarizes research findings with respect to the influence of sex on language development as follows:

The vast accumulation of evidence in the same direction from a variety of investigators working in different parts of the country, employing different situations and methods of observation, and employing different analyses and linguistic indices, certainly is convincing proof that a real sex difference in language development exists in favour of girls. (p. 580)

Occasionally, however, differing reports emerge. Anastasi and D'Angelo (1952) report sex differences favouring boys in two Negro groups on the Goodenough Draw-a-Man Test. Loban (1963) found that although boys in the low group made poorer subordination scores than girls, boys in the high group made better subordination scores.

III. SUMMARY OF THE CHAPTER

This chapter has reviewed literature related to qualitative studies of vocabulary and to the factors of socio-economic status, IQ and sex which influence language development. There appears to be a strong relationship between language ability and socio-economic status. IQ appears to be closely related to socio-economic status, and, as such, influences language development. Where sex differences have been found in language studies, these have generally shown girls to be slightly superior to boys.

CHAPTER III

THE DESIGN OF THE STUDY

In this chapter the design of the study is described including the selection of the sample, the tests, the pilot study, the qualitative analysis of the recall vocabulary test and the analysis of the data.

I. THE SAMPLE

The subjects for this study were two groups of twenty-five children each, selected from grade one classes of the Edmonton Public Schools. Three schools were assigned by the supervisory staff for use in the study. One school was from an area designated as serving families of high socio-economic status, with eighty children enrolled in grade one. Two schools were from areas designated as serving families of low socio-economic status with a total of seventy-one children enrolled in grade one.

Elley's (1961) revision of the Gogh Home Index Scale, with the questions reworded so they could be answered by the parents, was sent to parents of all grade one children in the three schools, along with a covering letter. (See Appendix A). Each child was assigned a code number by the writer and this code number appeared at the top of the questionnaire. To avoid embarrassment parents were not requested to sign the questionnaire.

Ninety per cent of the questionnaires from the high socio-economic area were returned and seventy-one per cent were returned from the low socio-economic areas. Of the questionnaires returned, the

following were not considered in the selection of the two sample groups:

1. Those questionnaires returned blank or incomplete.
2. Those questionnaires which indicated that a language other than English was spoken in the home "quite often" or "most of the time". This was done to limit the sample to subjects who spoke English predominantly.

The acceptable questionnaires were scored according to the directions for the Gogh Home Index Scale. In addition, each child was assigned a rating based on the occupation of the father according to Blishen's (1961) Canadian Occupational Scale. The total socio-economic status rating for each child was calculated by combining the ratings of the Gogh Home Index Scale and the Canadian Occupational Scale.

The two sample groups were selected as follows: the twenty-five children with the highest combined ratings were selected as an upper socio-economic status (USES) group. The twenty-five children with the lowest combined ratings were selected as a lower socio-economic status (LSES) group.

The combined ratings for the USES group ranged from 100.5 to 80.7 with a mean of 89.18. The combined ratings for the LSES group ranged from 58.4 to 42.8 with a mean of 50.73. The difference between the two groups was significant beyond the .001 level on a two-tailed "t" test. See Table I. The two sample groups, therefore, represent two extreme socio-economic status populations.

TABLE I

DIFFERENCES BETWEEN THE TWO GROUPS IN SOCIO-ECONOMIC STATUS
AS MEASURED BY THE GOGH HOME INDEX SCALE AND THE CANADIAN
OCCUPATIONAL SCALE

	USES Group (N = 25)		LSES Group (N = 25)		t*
	Mean	S.D.	Mean	S.D.	
Socio-economic status	89.18	6.27	50.73	4.37	25.16

* Significant beyond the .001 level

II. THE TESTS

IQ. The Columbia Mental Maturity Scale was administered by the writer to each subject individually as a measure of non-verbal IQ. It requires no verbal responses on the part of the subject and includes 100 items, each printed on a card 6 x 19 inches. The task for each item is to select from the drawings the one which is different from or unrelated to the others in the series. The bases for discrimination range from the perception of rather gross differences in colour or form to recognition of subtle relations in pairs of pictures so as to exclude one from a series of drawings.

The items are arranged in order of difficulty and testing continues until the ceiling level is reached, that is failing twelve in any sequence of sixteen items. The testing of each subject took approximately fifteen minutes.

The Detroit Beginning First Grade Intelligence Test had been administered by the schools to each grade one child. These scores were available to the writer and were used as another measure of IQ in this study.

Recognition Vocabulary Test. As a measure of recognition vocabulary, Form B of the Peabody Picture Vocabulary Test was administered by the writer to each subject individually. In this test the investigator presents the child with a word orally and asks him to select the appropriate picture referent from among four drawings. The items are arranged in order of difficulty and testing continues until the ceiling has been reached, that is failing six out of eight consecutive items. The categories of the items include animals, plants, occupations,

wearing apparel. Testing took approximately fifteen minutes per child.

Recall Vocabulary Test. To measure recall vocabulary the writer asked each child to define orally the first fifty words of Form B of the Peabody Picture Vocabulary Test. Appendix B lists the words of the recall test. The following instructions were given:

I am going to say a word and I want you to tell me what the word is, what it means. Tell me all about the word.

None of the subjects exhibited any difficulty in understanding the directions and all defined the words readily. Testing took approximately twenty-five minutes per child and there was no evidence of fatigue or waning of interest.

III. PILOT STUDY

During the last week of March a pilot study was conducted by the writer to test the procedures which would be used in the recall test and in the qualitative analysis of definitions. Ten grade one subjects were randomly selected from each of two schools designated by the Edmonton Public School Board as representing high and low socio-economic areas respectively.

The pilot study revealed that the best form for the instructions was to ask the subject to tell what the word is, what it means, and to tell all about the word. The subjects understood the instructions and appeared enthusiastic about the task.

The qualitative analysis of the children's responses provided the writer with the opportunity of gaining familiarity with the classification system, developing a method for classifying responses and

developing principles for classification.

IV. QUALITATIVE ANALYSIS

All responses were recorded and later transcribed by the writer. Responses were analyzed according to the following procedure:

1. The definition of each word for each subject was mounted on a separate card. The identification number of the subject was placed on the back of each card.
2. The definitions were then sorted according to the word defined, that is all the responses for the word "table", for example, were put together.
3. Definitions for each word were then classified according to the type of response.
4. A master chart was constructed which listed the category of each response for each subject.

Qualitative analysis was carried out according to Feifel's classification system. The categories, with an illustration of each as presented by Feifel and Lorge (1950, p. 4) are listed below.

Synonym Category

- | | |
|---|-----------------------------|
| a) Synonym unmodified: | Orange - a fruit |
| b) Synonym modified by use: | Straw - hay that cattle eat |
| c) Synonym modified by description: | Gown - long dress |
| d) Synonym modified by use and description: | Eyelash - hair over the eye |
| e) Synonym qualified as to degree: | Tap - touch lightly |

Use, Description, and Use and Description Category.

- | | |
|-------------------------|---------------------------------------|
| a) Use: | Orange - you eat it |
| b) Description: | Straw - it's yellow |
| c) Use and Description: | Orange - you eat it and
it's round |

Explanation Category

- | | |
|-----------------|--|
| a) Explanation: | Priceless - it's worth a lot of
money
Skill - being able to do some-
thing well |
|-----------------|--|

Demonstration, Repetition, Illustration & Inferior Explanation Category.

- | | |
|--------------------------|-----------------------------------|
| a) Demonstration: | For words like tap, eyelash, etc. |
| b) Repetition: | Puddle - a puddle of water |
| c) Illustration: | Priceless - a gem |
| d) Inferior Explanation: | Scorch - hot |

Error Category

(Incorrect Demonstration, Misinterpretation, Wrong Definition, Clang Association, Repetition without Explanation, Omits)

- | | |
|------------------------------------|-----------------------------|
| a) Incorrect Demonstration: | Eyelash - points to eyebrow |
| b) Misinterpretation: | Regard - protects something |
| c) Wrong definition: | Orange - a vegetable |
| d) Clang association: | Roar-raw, skill-skillet |
| e) Repetition without Explanation: | Puddle-puddle |
| f) Omits: | When the word is left out |

Feifel and Lorge (1950) analyzed the responses of 900 children between the ages of six and fourteen to the Stanford-Binet vocabulary subtest using this system. As a result of their study, the categories were arranged in hierarchical order. Research indicates that these categories represent a hierarchy of conceptual levels. Figure 1 is a graphic representation showing each type of response and the findings of Feifel and Lorge showing mean frequency of use with different ages.

V. PRINCIPLES OF SCORING

The following scoring principles were used by the writer:

1. If a word was defined at more than one level, the "highest" level at which the definition was offered was the one classified.

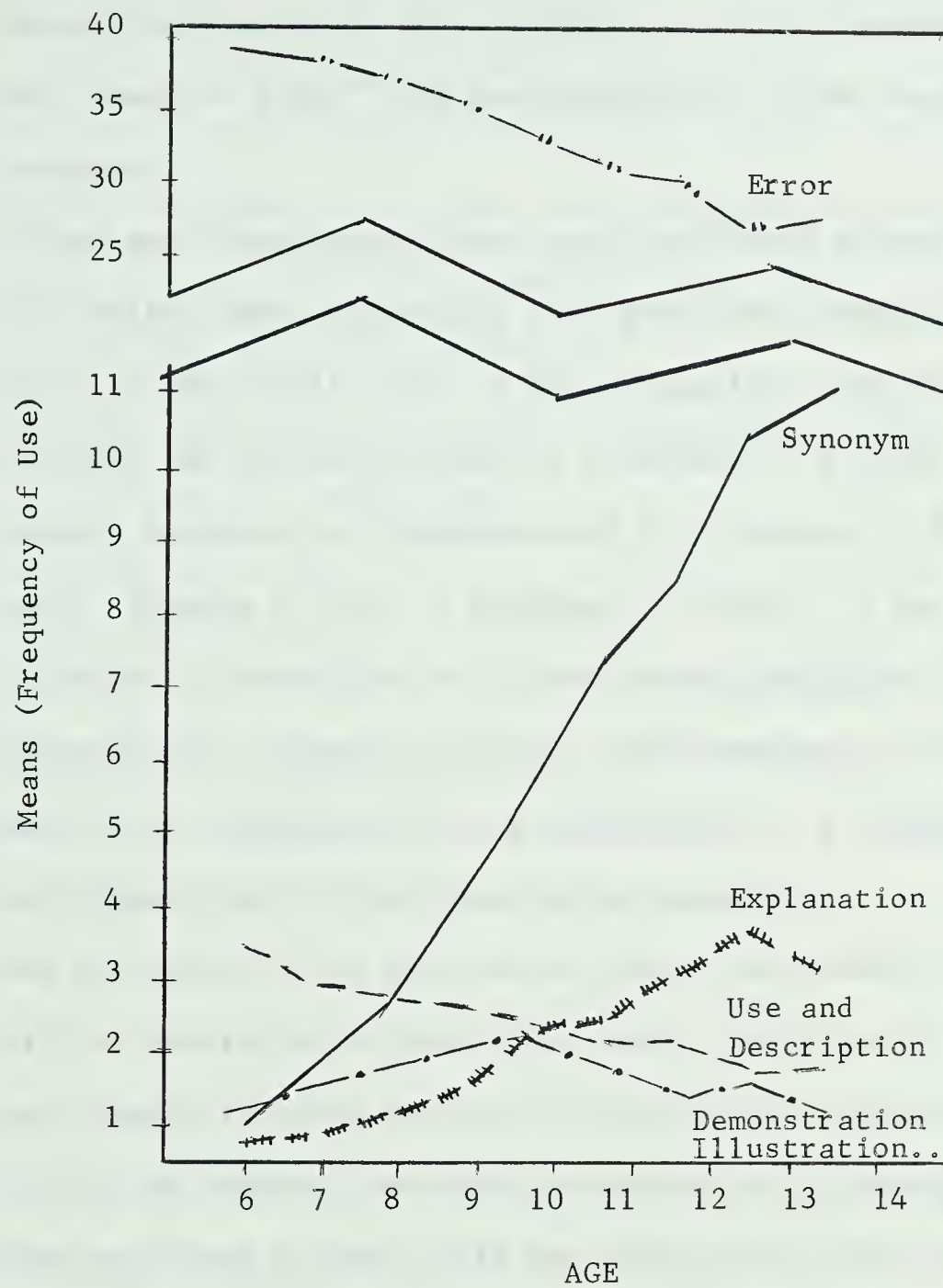


FIGURE 1

MEAN FREQUENCY OF USE OF FIVE QUALITATIVE
CATEGORIES BY AGE
(FEIFEL AND LORGE, 1950, p.9)

2. To be classified in the Synonym category the definition had to be an equivalent part of speech. For example, "fight" was classified as a synonym for "argument". If the response given was "when you fight" this was classified in the Description category.
3. "Time" and "temperature" were two items which presented some difficulty. Each subject had been given the recognition test prior to the recall test. In the recognition test the correct response for the word "time" is a picture of a clock and the correct response for "temperature" is a picture of a thermometer. Because of this, a response of "clock" to the word "time" or a description of a clock were classified in the Illustration category. Similarly, the response of "thermometer" for "temperature" or a description of a thermometer were classified in the Illustration category.
4. Not all words in the test can be classified according to all the categories of the Feifel scale. Two types of definition were generally given for words in participle form ending in "ing". For example, one type of response to "climbing" was "it's when you climb a tree". This was classified in the Repetition category. The other type of response was "it's when you go up a tree" and this was classified in the Explanation category. Appendix C lists examples of the types of response given by the subjects for each word in the recall vocabulary test.

VI. RELIABILITY OF SCORING

The reliability of classification for the recall test was established through interscorer agreement. Twelve words, or twenty-four per cent of the total number of words, were randomly drawn and rescored by an independent scorer. The scoring principles used by the writer were presented to the independent scorer, but no information was given about the writer's ratings.

Agreements were computed in terms of percentage through the Arrington (1931) formula. Accordingly, the responses in each observer's scoring that agreed with the other's (i.e. doubling the agreements) was divided by this total plus the disagreements or
$$\frac{2X \text{ agreements}}{2X \text{ agreements} + \text{disagreements}}$$

The percentage of agreement between the two scorers for the twelve words was ninety-seven. Therefore the reliability of the qualitative scoring in this study appears to be satisfactory.

VII. DERIVATION OF RECALL SCORES

In order to obtain a recall score, a numerical weighting was assigned to each category. Since the categories were arranged in hierarchical order, the following values were assigned:

Synonym	4
Use and Description	3
Explanation	2
Inferior Explanation, etc.	1
Error	0

Using these values it was possible to obtain a total recall score

for each subject in the following way : recall score = 4X the number of responses in the Synonym category + 3X the number of responses in the Use and Description category + 2X the number of responses in the Explanation category + 1X the number of responses in the Inferior Explanation etc. category.

VIII. ANALYSIS OF DATA

The "t" test was used to test for significant differences between the two groups on the following: age, sex, socio-economic status, Columbia Mental Maturity Scale IQ score, Detroit Beginning First Grade Intelligence Test score, recognition score, recall score, and number of responses in each of the categories of the qualitative classification system.

Multiple linear regression models were used to test whether the above variables contributed significantly to the prediction of the recognition and recall scores within each group.

IX. SUMMARY OF THE CHAPTER

This chapter has described the design of the study including the sample, the tests, the pilot study, the qualitative analysis of vocabulary and the analysis of the data.

CHAPTER IV

ANALYSIS OF THE DATA

This chapter presents the findings of the study. In all cases the variables were: recognition vocabulary score, recall vocabulary score, IQ scores of the Columbia Mental Maturity Scale, scores of the Detroit Beginning First Grade Intelligence Test, age and sex. Where the effects of the variables on recognition score are considered, recognition score is omitted as a contributing variable. Where the effects of the variables on recall score are considered, recall score is omitted as a contributing variable. The data are presented in the following order:

1. Comparisons between the two groups.
2. The effects of the variables on recognition vocabulary scores of the USES group.
3. The effects of the variables on recall vocabulary scores of the USES group.
4. The effects of the variables on recognition vocabulary scores of the LSES group.
5. The effects of the variables on recall vocabulary scores of the LSES group.

The chapter concludes with a summary of results.

I. COMPARISON BETWEEN THE GROUPS

Means and standard deviations for the two groups on Columbia Mental Maturity Scale IQ scores are presented in Table II.

TABLE II
DIFFERENCES BETWEEN COLUMBIA MENTAL MATURITY
SCALE IQ SCORES OF USES AND LSES GROUPS

	USES Group (N = 25)		LSES Group (N = 25)		t*
	Mean	S.D.	Mean	S.D.	
Columbia Scores	129.20	10.48	106.24	15.38	6.17

* Significant beyond the .001 level

The mean score for the USES group was 129.20 and the mean score for the LSES group was 106.24. The difference between these means was found to be significant beyond the .001 level on a two-tailed "t" test. Figure 2 shows the distribution of scores for the two groups.

Means and standard deviations for the two groups on the Detroit Beginning First Grade Intelligence Test are shown in Table III. The mean score of the USES group was 117.56 and the mean score of the LSES group was 95.92. On a two-tailed "t" test the difference between these means was found to be significant beyond the .001 level. The distribution of scores for both groups is shown in Figure 3.

The mean score on the recognition test for the USES group was 65.12 and the mean score for the LSES group was 55.80. Means and standard deviations for both groups are shown in Table IV. The difference between the means was found to be significant beyond the .001 level on a two-tailed "t" test. The distribution of scores for both groups is presented in Figure 4.

The mean score for the USES group on the recall test was 123.64 and the mean score for the LSES group was 106.24. The difference between these means was found to be significant beyond the .001 level on a two-tailed "t" test. Means and standard deviations for both groups are presented in Table V and the distribution of scores for both groups is shown in Figure 5.

Characteristics of Pupil Responses in the Recall Test. For both groups the majority of responses were in the Use and Description category. Out of a total of fifty responses the mean number of responses for the USES group in this category was 24.68, for the LSES group, 24.24.

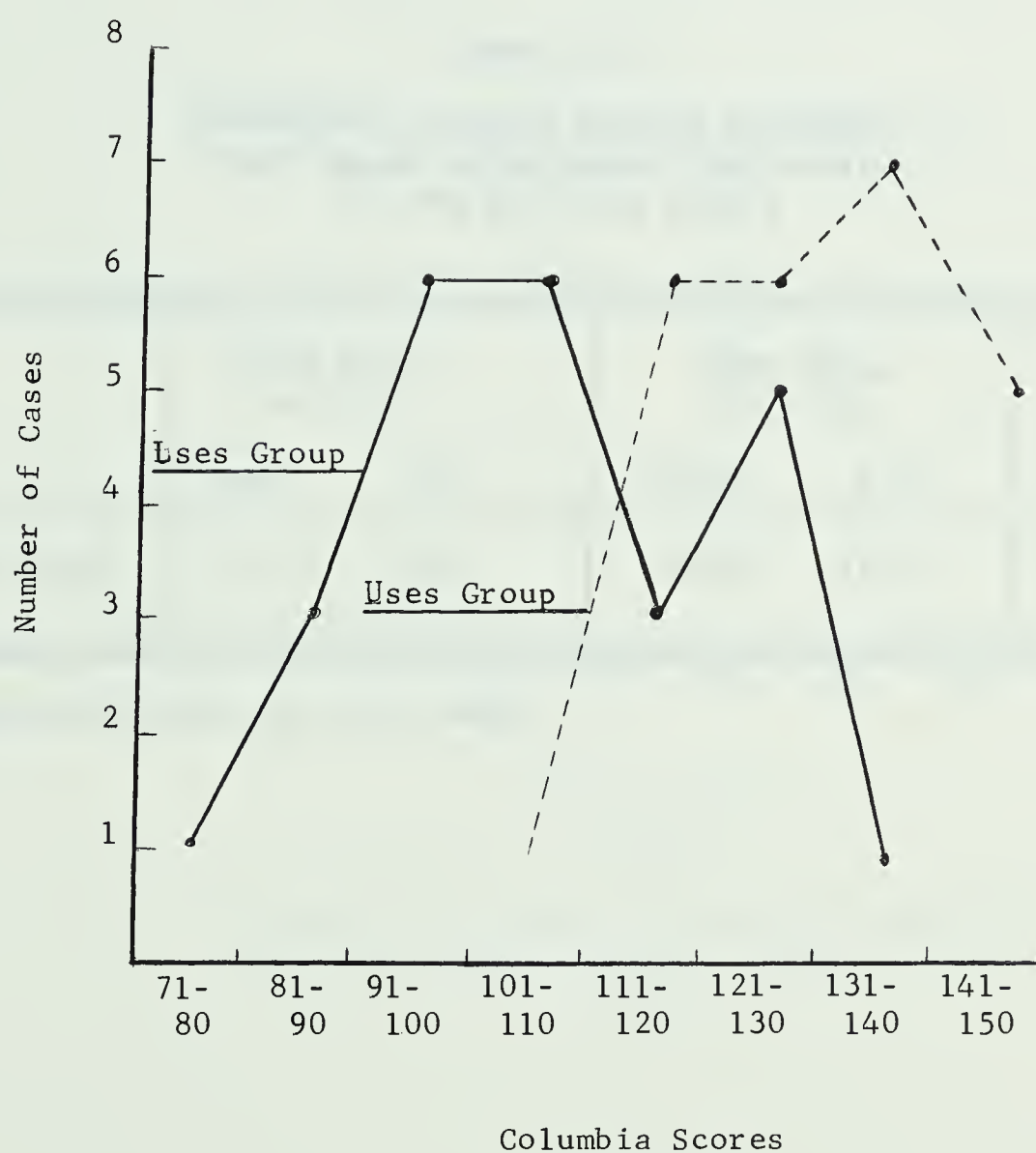


FIGURE 2

DISTRIBUTION OF COLUMBIA MENTAL
MATURITY SCALE IQ SCORES OF
USES AND LSES GROUPS

TABLE III
DIFFERENCES BETWEEN DETROIT BEGINNING
FIRST GRADE INTELLIGENCE TEST SCORES
OF USES AND LSES GROUPS

	USES Group (N = 25)		LSES Group (N = 25)		t*
	Mean	S.D.	Mean	S.D.	
Detroit Scores	117.56	13.84	95.92	18.73	4.65

* Significant beyond the .001 level

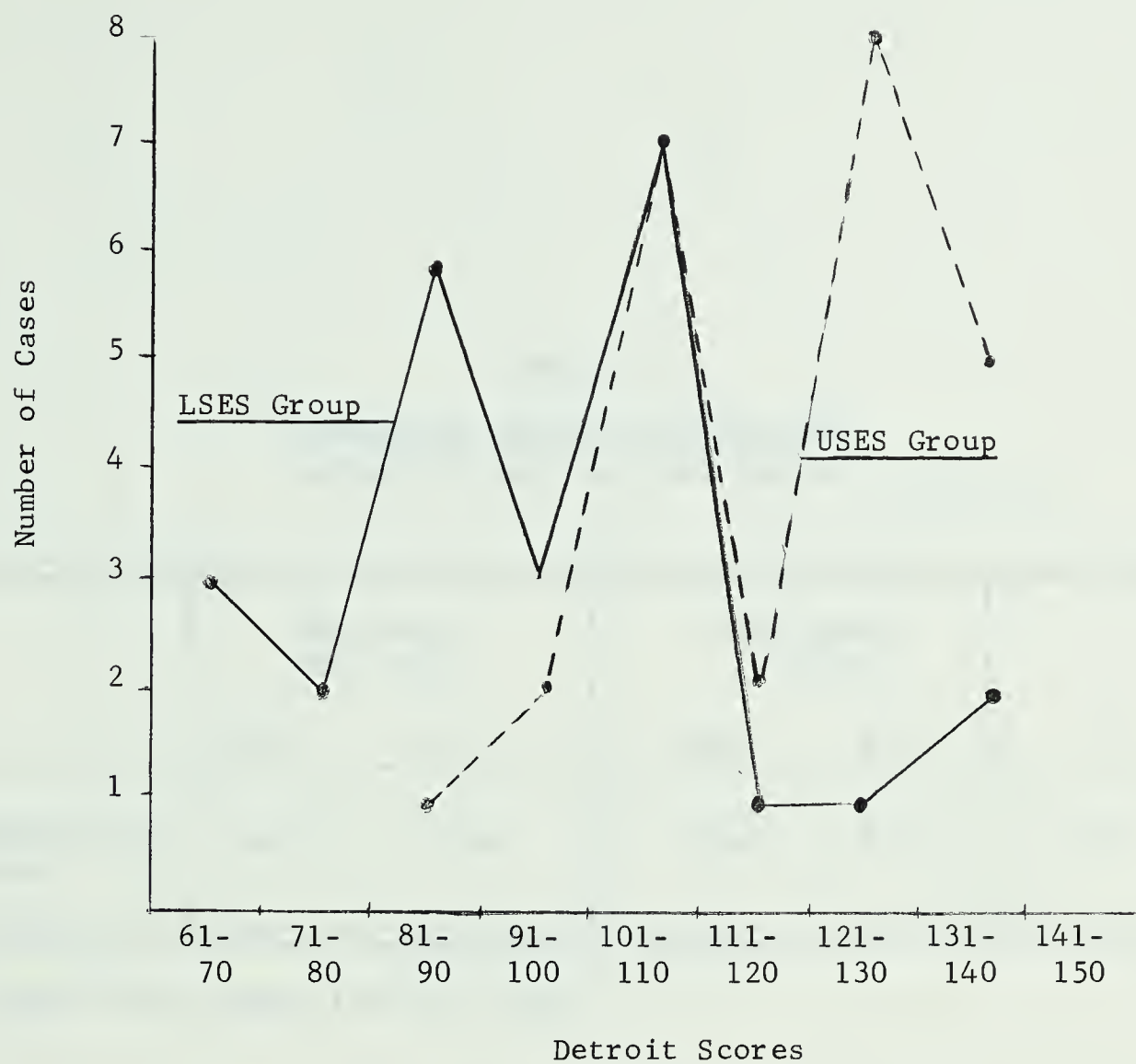


FIGURE 3

DISTRIBUTION OF DETROIT BEGINNING FIRST GRADE
INTELLIGENCE TEST SCORES OF USES AND LSES
GROUPS

TABLE IV
DIFFERENCES BETWEEN RECOGNITION
SCORES OF USES AND LSES GROUPS

	USES Group (N = 25)		LSES Group (N = 25)		t*
	Mean	S.D.	Mean	S.D.	
Recognition Scores	65.12	8.24	55.80	8.10	4.03

* Significant beyond the .001 level

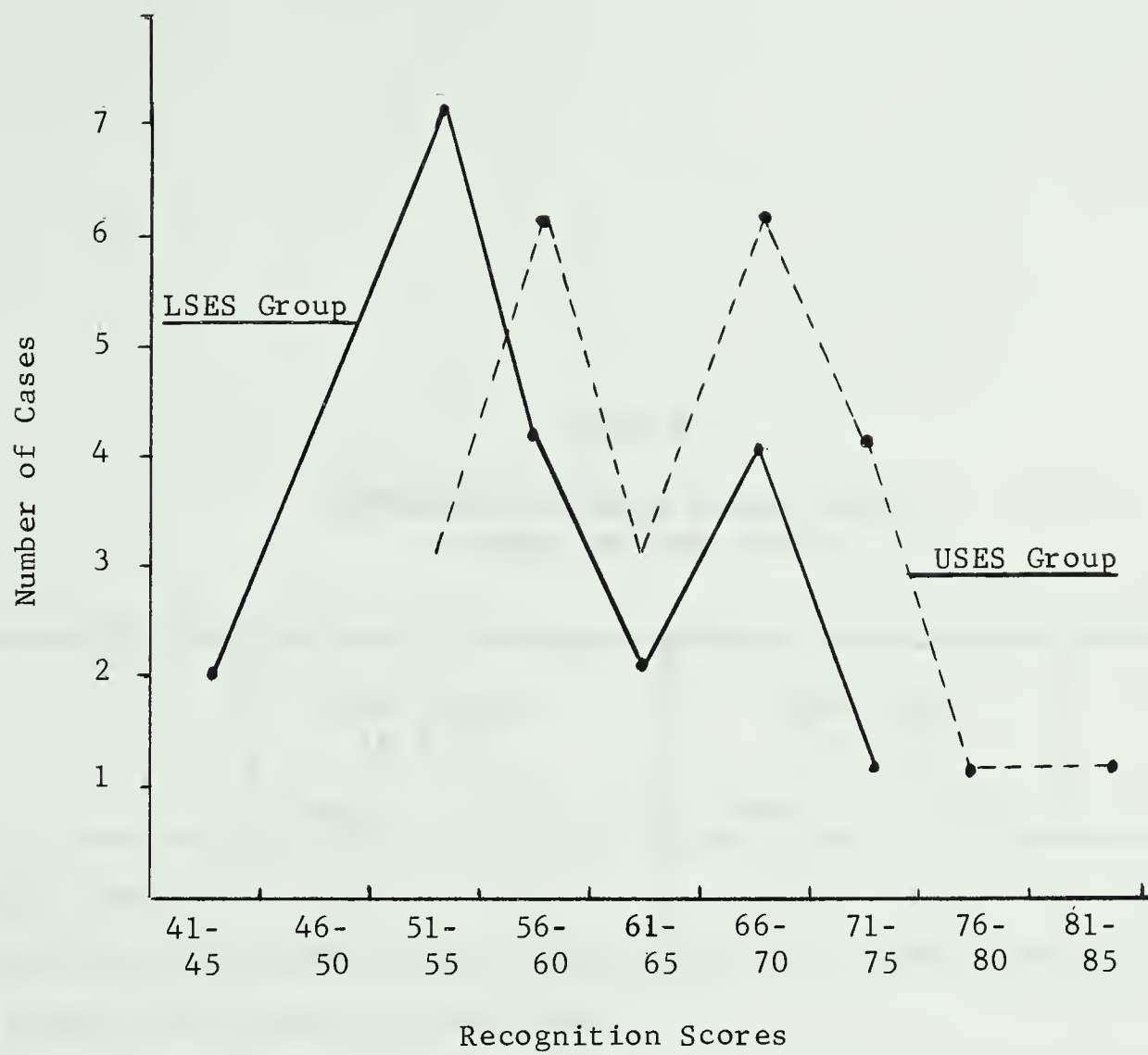


FIGURE 4

DISTRIBUTION OF RECOGNITION SCORES
OF USES AND LSES GROUPS

TABLE V
DIFFERENCES BETWEEN RECALL SCORES
OF USES AND LSES GROUPS

	USES Group (N = 25)		LSES Group (N = 25)		t*
	Mean	S.D.	Mean	S.D.	
Recall Scores	123.64	12.25	106.24	13.41	4.81

* Significant beyond the .001 level

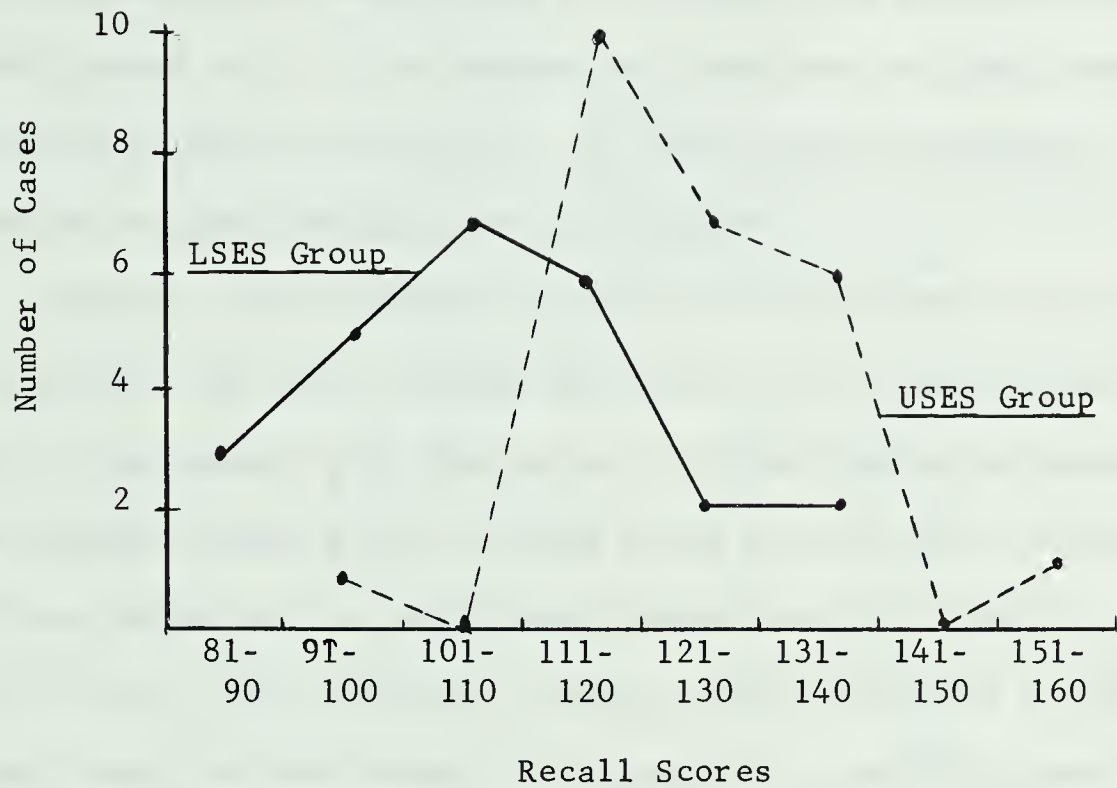


FIGURE 5

DISTRIBUTION OF RECALL SCORES OF
USES AND LSES GROUPS

The mean number of responses in the Explanation category was 1.24 for both groups and the mean number of responses in the Inferior category was 10.16 for the USES group and 9.92 for the LSES group. Table VI presents the mean number of responses and standard deviations for both groups in all five categories. There are no significant differences between the means for the middle three categories, that is, Use and Description, Explanation and Inferior.

However, the differences between the two groups become apparent in the Synonym and Error categories, that is, the highest and lowest levels in the hierarchy of the system. The mean number of responses in the Synonym category for the USES group is 9.24, for the LSES group, 5.28. This difference is significant beyond the .001 level on a two-tailed "t" test. This pattern is almost exactly reversed in the Error category. Here the mean number of responses for the USES group is 4.68, for the LSES group, 9.28. This difference is significant beyond the .001 level of confidence on a two-tailed "t" test. Figure 6 presents the mean distribution of responses by category for each group.

II. THE EFFECTS OF THE VARIABLES ON RECOGNITION SCORES OF USES GROUP

Correlations were computed between recognition scores and the scores of the variables of Columbia Mental Maturity Scale, Detroit Beginning First Grade Intelligence Test and the recall test, chronological age and sex. In addition, multiple linear regression models were used to assess the contribution of each variable to the prediction of recognition scores in the presence of the other variables. Table VII presents the correlations between recognition scores and the other variables for the USES group. Table

TABLE VI
DIFFERENCES BETWEEN NUMBER OF RESPONSES IN EACH OF
THE CATEGORIES OF THE QUALITATIVE CLASSIFICATION
SYSTEM OF USES AND LSES GROUPS

Qualitative Category	USES Group (N = 25)		LSES Group (N = 25)		t
	Mean	S.D.	Mean	S.D.	
	Mean	S.D.	Mean	S.D.	
Synonym	9.24	4.58	5.28	3.54	3.42*
Use and Description	24.68	4.42	24.24	3.34	.40
Explanation	1.24	1.24	1.24	2.60	.00
Inferior etc.	10.16	2.89	9.92	3.32	.28
Error	4.68	3.80	9.28	4.35	3.98*

* Significant beyond the .001 level

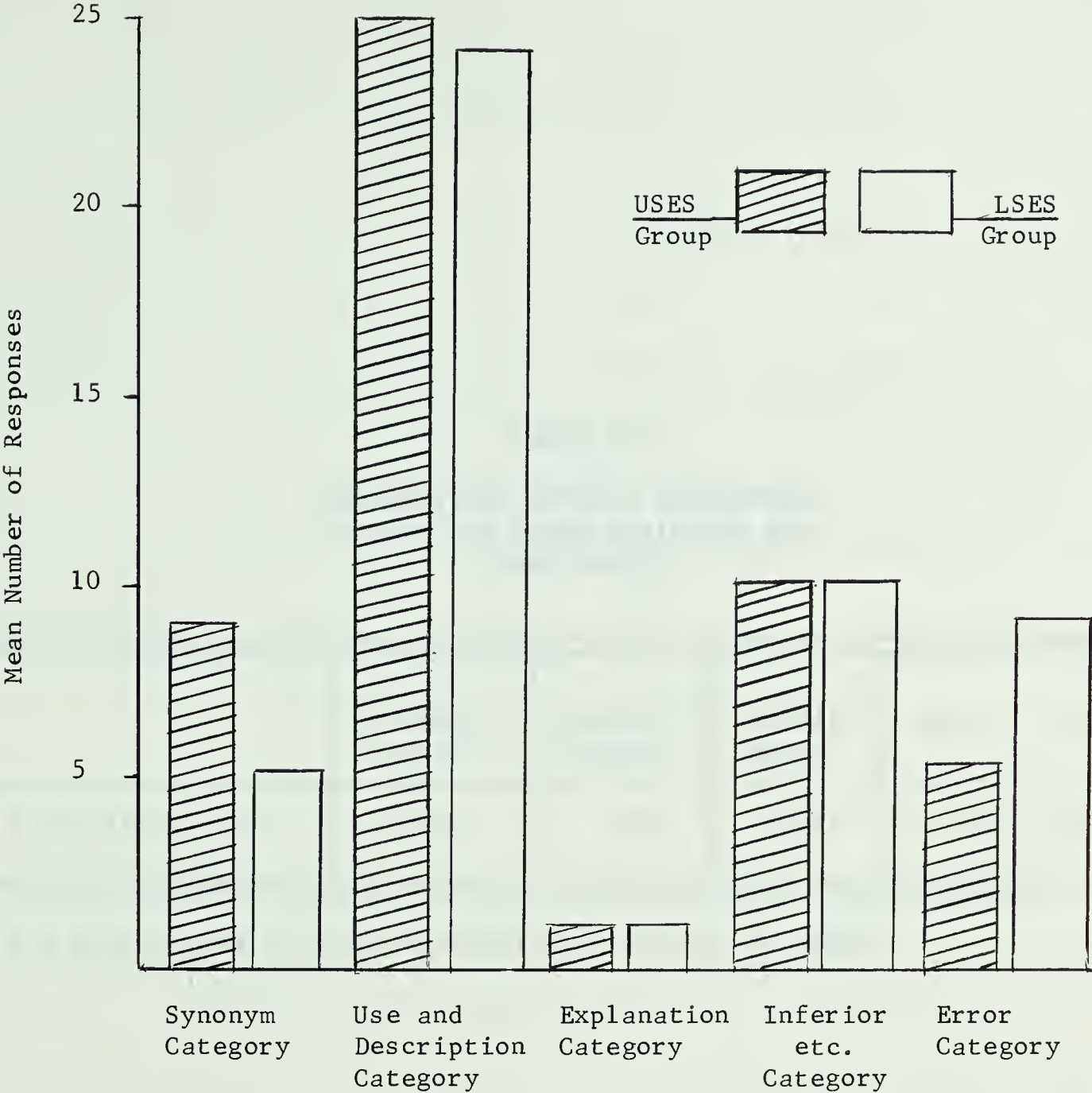


FIGURE 6

QUALITATIVE ANALYSIS

GROUP MEAN PERFORMANCE BY CATEGORY

TABLE VII
CORRELATIONS BETWEEN RECOGNITION
SCORES AND OTHER VARIABLES FOR
USES GROUP

	Columbia Score	Detroit Score	Recall Score	Age	Sex
Recognition Score	-.087	.393*	.781*	.304	-.140

* A correlation of .388 is significant at the .05 level

VIII shows the contribution of each of the variables to the prediction of recognition scores in the presence of the other variables for the USES group.

Significant correlations were found between recognition scores and the variables of Detroit scores and recall scores. Recall score was found to be the only significant predictor of recognition score for the USES group and it was found to be a very significant predictor. The F Ratio for recall score as a predictor of recognition score was 22.1958 and an F Ratio of 8.1 with 1 and 20 degrees of freedom is significant at the .01 level (Guilford, 1965).

III. THE EFFECTS OF THE VARIABLES ON RECALL SCORES OF USES GROUP

Correlations were computed between recall scores and the variables of Columbia Mental Maturity Scale IQ scores, Detroit Beginning First Grade Intelligence Test scores, recognition scores, chronological age and sex. In addition, multiple linear regression models were used to assess the contribution of each of the variables to the prediction of recall scores in the presence of the other variables. Table IX presents the correlations between recall scores and the other variables for the USES group. Table X shows the contribution of each of the variables to the prediction of recall scores in the presence of the other variables for the USES group.

Significant correlations were found between recall scores and the variables of Detroit scores and recognition scores. Recognition score was found to be the only significant predictor of recall score, and again, it was very significant.

TABLE VIII

THE CONTRIBUTION OF EACH OF THE VARIABLES
TO THE PREDICTION OF RECOGNITION SCORES
IN THE PRESENCE OF THE OTHER VARIABLES
FOR THE USES GROUP

Variable	F Ratio
Columbia Score	.0326
Detroit Score	.0772
Recall Score	22.1958*
Age	.4228
Sex	.3302

* $F(1,20)_{.01} = 8.1$

TABLE IX
CORRELATIONS BETWEEN RECALL
SCORES AND OTHER VARIABLES
FOR USES GROUP

	Columbia Score	Detroit Score	Recognition Score	Age	Sex
Recall Score	-.142	.410*	.781*	.295	.077

* A correlation of .388 is significant at the .05 level

TABLE X

THE CONTRIBUTION OF EACH OF THE VARIABLES
TO THE PREDICTION OF RECALL SCORES IN THE
PRESENCE OF THE OTHER VARIABLES FOR THE
USES GROUP

Variable	F Ratio
Columbia Score	.3473
Detroit Score	.8915
Recognition Score	22.1957 *
Age	.0104
Sex	.1437

* F (1,20)

.01 = 8.1

IV. SEX DIFFERENCES IN USES GROUP ON RECOGNITION AND RECALL SCORES

Means and standard deviations for boys and girls in the USES group on recognition and recall scores are presented in Table XI. The difference between the mean scores of boys and girls on both recognition and recall scores was not found to be significant.

V. THE EFFECTS OF THE VARIABLES ON RECOGNITION SCORES OF LSES GROUP

Correlations were computed between recognition scores and the variables of Columbia scores, Detroit scores, recall scores, age and sex for the LSES group. In addition, multiple linear regression models were used to assess the contribution of each variable to the prediction of recognition scores in the presence of the other variables. Table XII presents the correlations between recognition scores and the other variables for the LSES group. Table XIII shows the contribution of each of the variables to the prediction of recognition scores in the presence of the other variables for the LSES group.

Significant correlations were found between recognition scores and the variables of Columbia scores, Detroit scores, recall scores and sex. None of the variables was found to make a significant contribution to the prediction of recognition scores.

VI. THE EFFECTS OF THE VARIABLES ON RECALL SCORES OF LSES GROUP

Correlations were computed between recall scores and the variables of Columbia Mental Maturity Scale IQ scores, Detroit Beginning

TABLE XI
DIFFERENCES BETWEEN RECOGNITION AND
RECALL SCORES OF BOYS AND GIRLS
IN THE USES GROUP

	Boys (N = 13)		Girls (N = 12)		t
	Mean	S.D.	Mean	S.D.	
Recognition score	66.23	7.06	63.92	9.21	.70
Recall score	124.54	8.83	122.67	14.87	.38

A t value of 2.20 is significant at the .05 level.

TABLE XII
CORRELATIONS BETWEEN RECOGNITION
SCORES AND OTHER VARIABLES FOR
LSES GROUP

	Columbia Score	Detroit Score	Recall Score	Age	Sex
Recognition Score	.562*	.528*	.500*	-.098	.389*

* A correlation of .388 is significant at the .05 level

TABLE XIII

THE CONTRIBUTION OF EACH OF THE VARIABLES
TO THE PREDICTION OF RECOGNITION SCORES IN
THE PRESENCE OF THE OTHER VARIABLES FOR
THE LSES GROUP

Variable	F Ratio
Columbia Score	3.2994
Detroit Score	.0999
Recall Score	1.1048
Age	3.3626
Sex	.1948

F (1,20)
.05 = 4.35

First Grade Intelligence Test scores, recognition scores, chronological age and sex. In addition, multiple linear regression models were used to assess the contribution of each variable to the prediction of recall scores, in the presence of the other variables. Table XIV presents the correlations between recall scores and the other variables for the LSES group. Table XV shows the contribution of each of the variables to the prediction of recall scores in the presence of the other variables for the LSES group. Significant correlations were found between recall score and the variables of Columbia score, Detroit score, recognition score and sex. Columbia score was found to be a significant predictor of recall score and Detroit score was found to be a very significant predictor. In addition, sex, in favour of boys, was found to be a significant factor in predicting recall scores.

VII. SEX DIFFERENCES IN LSES GROUP ON RECOGNITION AND RECALL SCORES

Means and standard deviations for boys and girls in the LSES group are presented in Table XVI. On the recognition test the mean score of the boys is higher than that of the girls and the difference between the mean score of boys and girls is significant at the .03 level on a two-tailed "t" test. On the recall test the mean score of the boys is again higher and the difference between the mean scores of boys and girls is significant at the .004 level on a two-tailed "t" test.

TABLE XIV
CORRELATIONS BETWEEN RECALL
SCORES AND OTHER VARIABLES
FOR LSES GROUP

	Columbia Score	Detroit Score	Recognition Score	Age	Sex
Recall Score	.539*	.718*	.500*	-.367	.502*

* A correlation of .388 is significant at the .05 level

TABLE XV

THE CONTRIBUTION OF EACH OF THE VARIABLES
TO THE PREDICTION OF RECALL SCORES IN THE
PRESENCE OF THE OTHER VARIABLES FOR THE
LSES GROUP

Variable	F Ratio
Columbia Score	6.2413 *
Detroit Score	21.3956 *
Recognition score	1.1062
Age	2.2427
Sex	9.2875 *

* F (1,20)
.01 = 8.1

TABLE XVI
DIFFERENCES BETWEEN RECOGNITION AND
RECALL SCORES OF BOYS AND GIRLS
IN THE LSES GROUP

	Boys (N = 12)		Girls (N = 13)		t
	Mean	S.D.	Mean	S.D.	
Recognition score	59.08	8.35	52.77	6.54	2.09*
Recall score	113.25	12.43	99.77	10.78	2.89 **

* Significant at the .05 level.

** Significant at the .004 level.

VIII. SUMMARY OF RESULTS

1. The two groups were found to be significantly different, beyond the .001 level of confidence, on all variables.
2. For the USES group significant correlations were found between recognition scores, the variables of Detroit scores and recall vocabulary scores, but the only variable which was a significant predictor of recognition score was recall score.
3. For the USES group significant correlations were found between recall score and the variables of Detroit scores and recognition scores, but the only variable which was a significant predictor of recall score was recognition score.
4. No sex differences were found on recognition and recall scores in the USES group.
5. For the LSES group significant correlations were found between recognition scores and all the variables except age, but none of the variables was found to be a significant predictor of recognition scores.
6. For the LSES group significant correlations were found between recall scores and all the variables except age. Columbia scores, Detroit scores and sex, in favour of boys, were found to be significant predictors of recall scores.
7. Boys made significantly higher scores than girls on recognition and recall tests in the LSES group.

VII. SUMMARY OF THE CHAPTER

This chapter has presented the findings of the study. The mean scores of both groups were compared to determine whether the groups were significantly different. Multiple linear regression analysis was used to assess the effects of the variables on recognition and recall scores for both groups. The results of the data analysis were presented along with a summary of these results.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS

The child beginning school enters a world where language plays an increasingly important role in terms of communication and learning. His language development has been influenced by many factors including his cognitive development, the socio-economic environment in which he lives, his mental and chronological age. If his school experience is to be of maximum benefit, it is important that we know as much as possible about all aspects of the child's language as affected by these influences.

I. PURPOSE OF THE STUDY

This study has examined the effects of socio-economic status on two aspects of the language of grade one children : recognition and recall vocabularies. The sample consisted of two groups of children: one representing an upper socio-economic status population, the second representing a lower socio-economic status population. The groups were compared for significant differences in IQ, recognition vocabulary score and recall vocabulary score. Each group was examined to see if the variables contributed significantly to the prediction of recognition and recall scores.

II. PROCEDURE

Socio-economic status was measured by combining the ratings of Blishen's (1961) Canadian Occupational Scale and Elley's (1961) revision

of the Gogh Home Index Scale for grade one children in three schools. The twenty-five children with the highest combined ratings were selected as an upper socio-economic status (USES) group, and the twenty-five children with the lowest combined ratings were selected as a lower socio-economic status (LSES) group.

The Peabody Picture Vocabulary Test was administered to measure recognition vocabulary and the first fifty words of the Peabody Picture Vocabulary Test, defined orally by the children, were used to measure recall vocabulary. The definitions were classified according to a five-fold system devised by Feifel (1949) and numerical values were assigned to each category of the classification system so that a recall score was available for each subject.

The Columbia Mental Maturity Scale was administered as a measure of non-verbal IQ and Detroit Beginning First Grade Intelligence Test scores, which were available in the schools, were used as another measure of IQ.

The two groups were compared on the variables of Columbia score, Detroit score, recognition score and recall score to see if significant differences existed between the groups on these variables. Multiple linear regression models were used to determine whether the variables contributed significantly to the prediction of recognition and recall scores of each group representing the highest and lowest levels of socio-economic status.

III. FINDINGS

1. The two groups were found to be significantly different beyond

- the .001 level of confidence on all variables: IQ scores of the Columbia Mental Maturity Scale, Detroit Beginning First Grade Intelligence Test scores, recognition vocabulary scores, recall vocabulary scores, and the number of recall responses in three of the categories of the qualitative scale.
2. For the USES group, significant correlations were found between recognition scores and the variables of Detroit scores and recall scores, but recall score was found to be the only significant predictor of recognition score.
 3. For the USES group, significant correlations were found between recall scores and the variables of Detroit scores and recognition scores, but recognition score was found to be the only significant predictor of recall score.
 4. For the USES group, no significant differences were found between the scores of boys and girls on recognition or recall vocabulary measures.
 5. For the LSES group, significant correlations were found between recognition scores and all the variables except age, but none of the variables was found to be a significant predictor of recognition score.
 6. For the LSES group, significant correlations were found between recall scores and all the variables except age, and the following variables were found to be significant predictors of recall score: Columbia scores, Detroit scores and sex, in favour of boys.
 7. For the LSES group, boys made significantly higher scores than

girls on recognition and recall vocabulary measures.

IV. CONCLUSIONS AND IMPLICATIONS

1. Since the recognition and recall vocabulary scores of the LSES group were significantly lower than those of the USES group, it appears that lower socio-economic status children are poorer in knowledge of vocabulary, whether measured as simple recognition of words or as level of difficulty of definition, than upper socio-economic status children.
2. The two groups showed almost the same mean number of responses in three of the five categories of the qualitative scale. The USES group showed a significantly higher number of responses in the Synonym category, the highest category, and the LSES group showed a significantly higher number of responses in the Error category. It would appear that the number of responses in the middle three categories is determined largely by age and that the Synonym category presents a threshold beyond which the LSES group does not perform with comparable effectiveness.
3. For the USES group, recognition score was found to be the only significant predictor of recall score, and recall score was found to be the only significant predictor of recognition score. It would appear that these are two highly related language functions for children at this age. That is, upper socio-economic status children at this age, who recognize many words, would also seem to be able to define words at a relatively higher level.

4. For the LSES group, recall score was not found to be a significant predictor of recognition score, nor was recognition score found to be a significant predictor of recall score. It would appear that lower socio-economic status children at this age have little reason to use the more abstract levels of conceptualization as represented by the Synonym category of definition. This would support the findings of Piaget (1963 a, 1963 b, 1963 c) that children at this age are in the stage of concrete operations and the views of Bernstein (1961 a) that the language of the lower classes is characterized by concrete, descriptive speech and organized within a relatively low level of conceptualization.
5. For the LSES group, the absence from among the variables of a significant predictor of recognition score seems to indicate that recognition score is unrelated to, or independent of IQ or recall score. It seems likely that low socio-economic status, with the limitations suggested for language development, accounts for the relatively poor performance of that group on the vocabulary measures used in the present study.
6. Boys in the LSES group were found to make significantly higher scores than girls on recognition and recall tests. This appears to be contrary to the findings of most language studies. However the writer has found in working with low socio-economic status kindergarten children, that boys tend to be more active physically and motorically than girls, and hence verbal activity increases in boys, as an accompaniment to physical activity,

with age and experience in school. It may be that because of the more active physical activity and exploratory behaviour that low socio-economic boys exhibit, they have developed a larger recognition vocabulary and more abstract gestural and verbal concepts than lower socio-economic status girls at this age.

V. SUGGESTIONS FOR FURTHER RESEARCH

1. Results of this study should be confirmed with a greater number of students. The significantly higher performance of LSES boys than girls in recognition and recall scores found in this study, may be a function of the particular sample. If this finding is confirmed in a study with a larger sample, it would appear necessary to provide more and different experiences for LSES girls than boys.
2. Research into the kinds of words LSES children appear to find most difficult would help to determine the kinds of experiences which the school should provide.
3. The relationship between recognition and recall vocabularies and reading ability should be examined to determine if either or both of these skills affect reading ability.
4. Increased research is necessary to further refine techniques for classifying children's recall responses.
5. Vocabulary is of course just one aspect of language. A more comprehensive study which would explore the total language competence of children of this and other ages, as it is affected by socio-economic status in such areas as articulation, syntax,

morphology, and vocabulary, would seem in order.

6. Urban, predominantly English speaking, lower socio-economic children represent only one type of disadvantaged child. There are other forms of disadvantage from which children suffer which present serious educational problems. Studies of language ability should be undertaken with some classes of rural children, Indian and Metis children and new immigrant children.
7. If the cumulative deficit phenomenon suggested by Deutsch and others exists, a developmental study covering the entire grade span of the elementary school would provide information about patterns of language development that exist in LSES children and might reveal stages at which increased language activities are required.
8. As a result of this study and other research, it would appear that LSES children require increased opportunities to develop language competence. Preschool classes with well planned experiences seem to provide an obvious solution. A study of grade one children who have been exposed to preschool classes providing various types of experience, along with control groups with no preschool experiences, would be of value to determine the most effective types of programme.

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APPENDICES

APPENDIX A

LETTER TO PARENTS AND HOME INDEX QUESTIONNAIRE

Dear Parents:

I am a graduate student at the University of Alberta doing research in the language development of young children. It is hoped that the results of this research will help to improve school language programmes. I will be visiting the grade one class that your child attends to observe language usage.

Information about family background of the children is an important part of this research. It would be helpful if you would complete the attached questionnaire and return it in the enclosed envelope to your child's teacher within the next few days.

We realize that some of the questions are of a personal nature, but any alterations would invalidate the research. You need not sign the questionnaire and all results will be kept completely confidential. If you object to answering the questions, please return the blank questionnaire in the envelope to your child's teacher.

Thank you for your co-operation.

Yours sincerely,

Dorothy Labensohn.

1. Father's Occupation: _____
(Be clear. For Example: Sales clerk at Eaton's; door-to-door salesman for Fuller Brush; travelling salesman for Massey-Ferguson).
2. Mother's Occupation: _____
3. Do you ever use a language other than English in your home: _____
If you do, (a) Name it here: _____
(b) Circle the word which tells how often you use it:

Hardly ever
Quite often
Most of the time
4. How long have you lived in Canada? _____

DIRECTIONS: In the following questions, mark your answer by putting a circle in the right place. For example, in the question "Does your family own a car?" draw a circle around the YES if your family does own a car, and around the NO if it does not. Be sure to answer all the questions.

1. Does the family own a car? _____ Yes No
2. Do you have a garage or carport? _____ Yes No
3. Did the father of the child who brought this home go to high school? _____ Yes No
4. Did the mother of the child who brought this home go to high school? _____ Yes No
5. Did the father of the child who brought this home go to university? _____ Yes No
6. Did the mother of the child who brought this home go to university? _____ Yes No
7. Is there a writing desk in your home? _____ Yes No
8. Is there a Hi-Fi or record Player in your home? _____ Yes No
9. Is there a piano in your home? _____ Yes No
10. Do you get a daily newspaper? _____ Yes No

11. Does the child who brought this home have his own room at home? _____ Yes No
12. Do you own your home? _____ Yes No
13. Is there an encyclopedia in your home? _____ Yes No
14. Are there more than 100 hard-cover books in your home? (e.g. 4 shelves 3 feet long) _____ Yes No
15. Did you borrow any books from the Library in the last year? _____ Yes No
16. Does the family leave town each year for a holiday? _____ Yes No
17. Do you belong to any club where you have to pay fees? _____ Yes No
18. Does the mother of the child who brought this home belong to any clubs or organizations such as study, church, art, or social clubs? _____ Yes No
19. Does the father of the child who brought this home belong to any such clubs or organizations? _____ Yes No
20. Has the child who brought this home ever had lessons in music, dancing, art, swimming, etc. outside of school? _____ Yes No

APPENDIX B

LIST OF WORDS IN RECALL TEST

- | | |
|--------------|-----------------|
| 1. table | 26. engineer |
| 2. bus | 27. peeking |
| 3. horse | 28. kite |
| 4. dog | 29. rat |
| 5. shoe | 30. time |
| 6. finger | 31. sail |
| 7. boat | 32. ambulance |
| 8. children | 33. trunk |
| 9. bell | 34. skiing |
| 10. turtle | 35. hook |
| 11. climbing | 36. tweezers |
| 12. lamp | 37. wasp |
| 13. sitting | 38. barber |
| 14. jacket | 39. parachute |
| 15. pulling | 40. saddle |
| 16. ring | 41. temperature |
| 17. nail | 42. captain |
| 18. hitting | 43. whale |
| 19. tire | 44. cash |
| 20. ladder | 45. balancing |
| 21. snake | 46. cobweb |
| 22. river | 47. pledging |
| 23. ringing | 48. argument |
| 24. baking | 49. hydrant |
| 25. oone | 50. binocular |

APPENDIX C

EXAMPLES OF RECALL RESPONSES

TABLE

Synonym Category

Synonym modified by use and
description:

It's like a stool, but it's
'bigger and you eat on it.

Use, Description, and Use and Description Category.

Use:

You eat on it .

Description:

It's made of wood and has legs;
it has four legs and a top;

Use and description:

It's flat, with legs and you put
food on it.

BUS

Synonym Category

Synonym modified by use:

A kind of car that you ride in;
a big car for people.

Synonym modified by description:

A machine with wheels, a top
and seats:

Use, Description, and Use and Description Category.

Use:

You ride in it; it takes you
places; you can go to school
in it.

Use and description:

It's a long thing with four wheels
and you ride in it.

HORSE

Synonym Category

Synonym unmodified:

An animal.

Synonym modified by use:

An animal that they worked with
and nowadays you ride them.

Synonym modified by description:

An animal and it's brown.

Synonym modified by use and des-
cription:

An animal and you ride it and it
runs fast.

Use, Description, and Use and Description Category.

Use :

Something you ride on; you can
'ride on it; you ride it on a
farm; cowboys ride them.

Description:

It has legs and it can run fast;
it has four legs and a body and
a head.

DOG

Synonym Category

Synonym unmodified:

Animal; pet; a hound.

Synonym modified by use:

An animal that's good for a pet
or for hunting.

Synonym modified by description:

An animal with floppy ears.

Use, Description, and Use and Description Category

Use:

Something you play with; it
protects you in the night.

Description:

It says bow-wow; it barks; it
has four legs, a body and a
head; you feed it; it runs;
it likes to eat bones.

Use and description:

It has legs and it can run and
bark.

SHOE

Use, Description, and Use and Description Category

Use:

Something you wear on your feet
so they don't get hurt; they'-
re for your feet.

Description:

You wear it on your foot and it
has laces; it's a piece of ma-
terial for your foot; it's
flat underneath and you put
it on your foot.

FINGER

Use, Description, and Use and Description Category

Use:

To write with; you use it to
hold things.

Description:

What you have on your hand.

Use and description:

They're kind of round and you
could pick up little tiny
sticks with it; it has a nail.

on it and you could wear a
ring on it; part of yourself
and you can touch with it.

BOAT

Use, Description, and Use and Description Category

Use:	People fish in it; you ride in it; it floats in the water; you play with it in the water.
Description:	It floats and it goes in the water.
Use and Description:	It has a steering wheel and you ride it in the water.

Error Category

Wrong definition:	A machine.
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CHILDREN

Synonym Category

Synonym unmodified:	People's kids; boys and girls; humans; persons.
Synonym modified by use and description:	People who play and go to school; little boys and girls that like to play.
Synonym modified as to degree:	Little people; little kids.

Use, Description, and Use and Description Category.

Description:	They sing and play and have fun.
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BELL

Synonym Category

Synonym unmodified:	Chimes.
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Use, Description, and Use and Description Category.

Description:	It rings, it makes noise; it makes music; it goes ding-dong on a Church.
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Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Church bell.

TURTLE

Synonym Category

Synonym unmodified: A pet; an animal.
 Synonym modified by description: It walks real slow and it can be a pet; an animal that walks slow; an animal that carries its home with it.
 Synonym modified as to a degree: A little animal, little pet.

Use, Description, and Use and Description Category.

Description: It walks slowly; it's got a shell; it goes in the water.

Error Category

Wrong definition: Some kind of a fish.

CLIMBING

Explanation Category

Explanation: To go up a place; reaching something high up; if you want to go high, you climb.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Climbing a mountain; mountain lions climb.

Error Category

Wrong definition: Having fun; doing something.

LAMP

Synonym Category

Synonym unmodified: A light.
 Synonym modified by use: A light that lights up rooms.

Use, Description, and Use and Description Category

Use: It makes light: you turn it on so you can see; it needs electricity, you plug it in and then it makes light.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Inferior explanation: You turn on stuff; when it's dark.

SITTING

Explanation Category

Explanation: Something you do to rest your legs; a thing you do when you're tired; when you are on a chair; If you're tired and you want to rest and you do not want to lay down you can sit.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Sitting down; people sit.
 Inferior explanation: You do it when you're in school.

JACKET

Synonym Category

Synonym unmodified: Clothes, a coat.
 Synonym modified by use: A coat that you wear.

Use, Description, and Use and Description Category

Use: You put it on; a thing you wear on cold days; something to keep warm in the winter.
 Description: A piece of material.

PULLING

Explanation Category

Explanation:

If you wanna get something somewhere you can pull it.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition:

Pulling a rope; pulling a thing.

RING

Synonym Category

Synonym unmodified:

Jewellery.

Use, Description, and Use and Description Category.

Use:

Something you wear on your finger.

Description:

You wear it on your finger and it's silver sometimes; you wear it on your finger sometimes when you're married.

NAIL

Synonym Category

Synonym modified by use:

Equipment for building.

Use, Description, and Use and Description Category

Use:

You pound it into wood; something you hammer in if you want two boards to be together.

Description:

What you have on your finger.

Demonstration, Repetition, Illustration and Inferior Explanation Category.

Repetition:

Something you nail with.

HITTING

Explanation Category

Explanation: When you're fighting you hit someone; beating up someone; something children do to other kids when you don't like them.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Hitting someone; hitting a ball.
 Inferior explanation: Doing something to another person.

Error Category

Wrong definition: It's bad; being bad; you're mad.

TIRE

Synonym Category

Synonym unmodified: A wheel.

Use, Description, and Use and Description Category

Use: For a car; you drive on it; it's on a truck; you put it on cars or bicycles to ride on.
 Description: It's rubber; it rolls; it has air in it.
 Use and Description: Something to hold a car up so you can ride and it's round and it turns.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Flat tire.

LADDER

Use, Description, and Use and Description Category

Use: Something you climb up; something you climb on when you cannot reach something; you use it for fixing a roof.
 Description: It's made of wood and it's light brown.

SNAKE

Synonym Category

Synonym unmodified: Animal; creature.
 Synonym modified by description: An animal that's kinda dangerous;
 a long animal what's real
 squiggly and long.

Use, Description, and Use and Description Category

Description: Something like a worm but longer;
 like a worm but it bites; something
 what's dangerous sometimes;
 a boa constrictor can choke.

Demonstration, Repetition, Illustration and Inferior Explanation Category.

Inferior explanation: Pets that are in the jungle.

Error Category

Wrong definition: An insect; it's fat.

RIVER

Use, Description, and Use and Description Category

Use: For boats; people swim in it;
 for fishing; you can drown in
 it; you get water from it.
 Description: Water; something that makes a
 wave; it flows; moving water;
 it's water and it goes down
 like a path; it's like a stream,
 but it's longer and bigger and
 has more water.

Error Category

Wrong definition: A lake; an ocean; a sea.

RINGING

Synonym Category

Synonym modified as to degree: It's kind of a sound.

Explanation Category

Explanation: Something you do to clothes when you're washing them (wringing); when something makes a noise, like a bell.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Ringing a bell; a telephone rings.

BAKING

Explanation Category

Explanation: Making things like cakes; cooking.

Demonstration, Repetition, Illustration and Inferior Explanation Category.

Repetition: Baking cakes; baking food.

Error Category

Clang association: Bacon.

CONE

Synonym Category

Synonym unmodified: A piece of food;
Synonym modified by use: It's a dessert for after you eat, you put ice cream in it.

Use, Description, and Use and Description Category

Use: A thing that squirrels eat; something to put ice cream in; you eat it.
Description: It grows on trees.
Use and description: It's brown and you can put ice cream in it.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Ice cream cone.

Error Category

Wrong definition: Chickens have it on their heads.
 Clang association: Cocoon.

ENGINEER

Synonym Category

Synonym unmodified: Train driver.
 Synonym modified by use: A man who works on a train; some-
 one who drives a train; a man
 that works on building buildings.

Use, Description, and Use and Description Category

Description: He drives a train.

Demonstration, Repetition, Illustration and Inferior Explanation Category.

Inferior explanation: Man who's on a train.

Error Category

Misinterpretation: It rings, it's at the front of
 the train.
 Wront definition: Caboose; fire; fireman; fire engine;
 a train.

PEEKING

Synonym Category

Synonym modified by description: Spying on someone; looking when
 you are not supposed to.

Explanation Category.

Explanation: When someone's doing something and
 you want to see, you peek.

Demonstration, Repetition, Illustration and Inferior Explanation Category.

Repetition: Peeking behind a tree.

Error Category

Clang association: Picking apples.

KITE

Synonym Category

Synonym Unmodified:

A toy.

Use, Description, and Use and Description Category

Use :

Something you fly; something you play with; what you play with in the summer when there's a wind.

Description:

It goes up in the air; it's string and paper and wood.

Use and description:

Something with a box on it and it flies; something that flies when it's windy; it's made of plastic and paper and it can fly; a thing you put string on to hold it and it flies.

RAT

Synonym Category

Synonym unmodified:

An animal; a pet; a mouse.

Synonym modified by description:

A big mouse.

Synonym modified by use and description:

A little animal that's dark grey.

Synonym modified as to degree:

Something like a mouse; a sort of mouse; an animal that no one likes.

Use, Description, and Use and Description Category

Description:

It's little and it moves; something that eats cheese; it squeaks; something that the cat eats; some people have them in their house.

Error Category

Wrong definition:

An insect; it kills; it's stupid.

TIME

Explanation Category

Explanation

It means your watch is moving;
something you look at on a
watch.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition:

Something what you tell time with;

Illustration:

A clock; 10:00; minutes and
hours;

Inferior explanation:

A watch you can tell with it;
like when you look at a clock.

Error Category

Wrong definition:

A machine.

SAIL

U

Use, Description, and Use and Description Category

Use:

Something that makes a boat go.

Description:

A piece of cloth; something on
a boat.

Use and description:

Where you can get lots of things
in a store (sale); a part of
a boat and the wind blows and
makes the boat go.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition:

Sailors sail; a sail on a boat;
sail boat; sail on the water;
a sale at a store.

Inferior explanation:

To fly a boat;

Error Category

Wrong definition:

Boat; or houses; it floats; to
gain.

AMBULANCE

Synonym Category

Synonym unmodified:

Special kind of car to carry sick people; a truck for sick people to go to the hospital.

Synonym modified by use:

Car you put hurt people in; a machine that carried people to the hospital on emergencies.

Use, Description, and Use and Description Category

Use:

Something you carry hurt people in; when somebody's sick it takes them to the hospital.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition:

An ambulance car.

Error Category

Wrong Definition:

For watching; men that ride trucks.

TRUNK

Synonym Category

Synonym modified by use:

A box to put things in.

Synonym modified by description:

A big box; it's like a big suitcase.

Use, Description, and Use and Description Category

Use:

Something you put clothes in; a place where you put baggage in; you put tires in it.

Description:

Something on a car; the back of a car.

Use and Description:

A thing on a car and if you wanna go some place and stay for a while you pack things and put them in.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition:

Open the trunk; car trunk.

Inferior explanation:

A car thing.

Error Category

Wrong definition:

In front of a car and it carries a motor.

SKIING

Synonym Category

Synonym unmodified: A sport.
 Synonym modified by description: A winter sport.

Explanation Category

Explanation: You do it in winter; when you go down a hill in winter; when it's cold on the mountains, you can slide down a hill on skis.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Skiing on snow.

HOOK

Use, Description, and Use and Description Category

Use: Something you hang your clothes on; something you fish with.
 Description: A thing that goes on the end of a crane cable.
 Use and description: A round thing that's open at the end and you hang things on it.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Something you hook with; hook your coat.
 Inferior explanation: To lift something.

Error Category

Wrong definition: Doing something; for a boat; for a truck.

TWEEZERS

Use, Description, and Use and Description Category

Use: To pull things out; to pull out

slivers; things that you can pull stuff out that you can't pull with your fingers; to pull out hair.

Use and description:

Little things you pick up small, small things with.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Inferior explanation:

Something your dad can work with.

Error Category

Misinterpretation:

You turn things around with and tighten them; to take out your teeth.

Wrong definition:

To cut your hair; for your finger-nails; things that you use in the garden.

WASP

Synonym Category

Synonym unmodified:

An insect, a bee.

Synonym modified by description:

An insect that stings and hurts.

Synonym modified as to degree:

It's like a bee but it's way badder.

Use, Description, and Use and Description Category

Description:

It stings people; it flies around; something that takes things out of your blood by making a little sting.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition:

Something that makes a wasp nest.

Error Category

Wrong definition:

An animal; a pet; a bug; a butterfly; a duck.

Clang association:

Watch.

BARBER

Synonym Category

Synonym modified by description: A guy who cuts hair; a man who cuts your hair; a hair-cut man.

Use, Description, and Use and Description Category

Description: He cuts your hair.

Error Category

Wrong definition: Store man.

PARACHUTE

Use, Description, and Use and Description Category

Use: What men use when they jump off planes; a thing what when you go down from a airplane it lands you softly.

Use and description: It's like a big bag and it takes people down safely.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Inferior explanation: Very hard piece of cloth.

Error Category

Misinterpretation: It flies up in the air.

Wrong definition: A man that jumps from a plane; what you fly.

SADDLE

Use, Description, and Use and Description Category

Use: Something you put on a horse; something you set on a horse; what you put on a horse so you don't hurt his back.

Description: A piece of leather.

TEMPERATURE

Demonstration, Repetition, Illustration and Inferior Explanation Category

Illustration: Tells you how cold it is; a thermometer; they take your temperature when you're sick; something you put in your mouth.

Error Category

Wrong definition: When it's sunny; when it's windy.

CAPTAIN

Synonym Category

Synonym unmodified: The boss; a police man; man.
 Synonym modified by description: A guy who owns and bosses boats; a person who tells the orders on a ship; a man who owns and bosses a ship.
 Synonym modified by use and description: A man who drives boats and tells the sailors what to do.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Captain helps him; captain helps you.
 Inferior explanation: He watches the people go on board the ship.

WHALE

Synonym Category

Synonym unmodified: A fish.
 Synonym modified by description: It's not actually a fish, it's a real big animal that breathes out of water, kind of sort of a fish; a sea animal, a big fish; a big fat white fish; a big animal that lives in the water; a big sea monster.
 Description modified as to degree: A king of fish.

Use, Description, and Use and Description Category

Description: Something that lives in the water;
he lives in the sea; he's got a
hole in his back and sprouts water.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: A big whale.
Inferior explanation: A thing that's very dangerous.

Error Category

Wrong definition: A pet; to eat; a little animal.

CASH

Synonym Category

Synonym unmodified: Money.
Synonym modified by use: Money and you can spend it.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Cash a cheque.

Error Category

Misinterpretation: Something you keep your money in.
Wrong definition: Cashing a letter.
Clang association: Catching.

BALANCING

Explanation Category

Explanation: You're on a line and you walk and you
don't fall off; when you go on a
high place on a wire and you stay
up and don't fall off.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Balance on a line; balance on a tight

Illustration: rope.
On a teeter totter.

COBWEB

Synonym Category

Synonym modified by description: A spider web; sort of a cage that spiders make.

Use, Description, and Use and Description Category

Use: A thing spiders use to catch other insects.
Description: What spiders make; spiders make for their homes and to catch food.

PLEDGING

Synonym Category

Synonym unmodified: Saluting.
Synonym modified by description: Saluting the flag.

Explanation Category

Explanation: You hold your hand like this.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Inferior explanation: It's something you do.

Error Category

Wrong definition: Fetching a ball; when you build something.

ARGUMENT

Synonym Category

Synonym unmodified: A fight.

Use, Description, and Use and Description Category.

Description: When one person gets mad at another and they yell; one person is mad at

the other one and they fight; two people chattering.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: People argue over something.
Inferior explanation: When people say no and yes.

Error Category

Misinterpretation: Talking to your mum and dad;
someone who thinks they're so great.
Wront definition: A pet.

HYDRANT

Use, Description, and Use and Description Category

Use: Something to help put fires out; something what gives fire engines water.
Description: There's water in it; where the firemen screws the hose and water comes.

Demonstration, Repetition, Illustration and Inferior Explanation Category

Repetition: Fire hydrant.

Error Category

Misinterpretation: Fire hose; a fire; a fire truck.
Wrong association: Poison.
Clang association: You hide.

BINOCULAR

Synonym Category

Synonym modified by use: Glasses to see far things.

Use, Description, and Use and Description Category

Use: To look through; to make things seem closer.
Use and Description: You put them on your eyes and see far distances.

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